Bates-Sheppard House

Dewitt County Historical Museum
312 E. Broadway Street
Cuero, Texas 77954

DeWitt County
307 N. Gonzales Street
Cuero, 77954
2016.116A

EXTERIOR REPAIRS & RESTORATION

Bates Sheppard House
Komatsu Architecture

TABLE OF CONTENTS – SPECIFICATIONS

A
Project Manual
BATES-SHEPPARD HOUSE EXTERIOR REPAIRS & RESTORATION
3.17.2025

ISSUE DATE: 3/17/2025

Komatsu Architecture, Inc.
3880 Hulen Street, Suite 300
Fort Worth, Texas 76107
(817) 332-1914

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 00100
REQUEST FOR SEALED PROPOSALS

Bates-Sheppard House
De Witt County Historical Museum
Exterior Repairs & Restoration
312 E. Broadway Street
Cuero, Texas 77954

De Witt County, Texas
102 N. Clinton, Ste. 240
Cuero, Texas 77954
Phone: 361-275-0926

Pursuant to Section 271.116 of the Texas Local Government Code, sealed proposals for the Bates-Sheppard House Exterior Repairs and Restoration project will be received at the office of the De Witt County Auditor, 102 N. Clinton, Ste. 240, Cuero, Texas 77954 until 3:00 PM on Thursday, April 17, 2025. At that time, the proposals will be publicly opened and read aloud. Proposals received after the time indicated will be returned unopened.

All work including General Repair and Construction work will be performed under a single lump sum contract. Proposals will be structured to reflect unit prices for specific portions in accordance with the Instructions to Proposers and the Proposal Form of the Work.

Prime General Contractors may obtain the signed and sealed drawings and specifications from the County's website, https://www.co.dewitt.tx.us/ . Contractors are responsible for their own printing and determining the required number of sets of drawings and specifications to adequately and accurately bid the project.

Proposal security in the amount of five percent (5%) of the total Proposal amount must accompany each proposal. A Performance Bond and Payment Bond, each in the full amount of the contract, will be required of the selected Proposer.

A Pre-Proposal Conference will be held on Monday, April 7, 2025 at 1:00 PM at the Bates-Sheppard House, De Witt County Historical Museum, 312 E. Broadway Street, Cuero, Texas 77954. Attendance by all prospective Proposers at this Pre-proposal Conference is **mandatory**. Refer to Section 00200, Instructions to Proposers, for additional information regarding the Pre-Proposal Conference.

The Owner reserves the right to reject any and all Proposals, and to waive any informalities or irregularities.

No Proposer may withdraw his Proposal within 90 days after the date of the Proposal opening.

END OF SECTION 00100 – REQUEST FOR SEALED PROPOSALS

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 00200
INSTRUCTIONS TO PROPOSERS

1.1 THE PROJECT

A. The project consists of the exterior repair and restoration work to a historic house museum. The successful Proposer will be required to provide all labor, materials, equipment and services required to perform the project.

B. The estimated time for substantial completion of the work shall be provided as part of the Proposal by the Proposers and will be considered as a selection criterion by the Owner.

C. The Owner is seeking a Contractor who will provide the best value to Owner for the construction of the project, based on the Selection Criteria set forth in 1.5 below, the Proposal Form and Responses to Proposal Questionnaire as shown in Section 00300. The Owner may conduct live interviews with one or more Proposers.

1.2 EXAMINATION OF DOCUMENTS AND SITE

A. Each Proposer, by making his Proposal represents that he has read and understands the Proposal documents, and that he has made written request for clarification of any apparent discrepancies therein.

B. Each Proposer by making his Proposal represents that he has visited the site and has familiarized himself with the local conditions under which the work is to be performed, including normal weather conditions at the site, and has verified all conditions indicated on the plans.

C. It is the intent of the Owner to make available all applicable areas of construction at the **Mandatory Pre-Proposal Conference**. A principal, officer, or employee of each prospective Proposer will be required to attend to obtain information and discuss the project. The Owner may condition acceptance of a Proposal on compliance with this requirement.

1.3 BASIS OF PROPOSALS

A. The Proposer must include the base Proposal breakdown of total construction costs as shown on the Proposal Form. The Proposer must include all unit prices shown on the Proposal Form; failure to comply may be cause for rejection.

B. The Proposer must submit both the Proposal and the completed Proposal Questionnaire which are shown as the Proposal Form in Section 00300. **Failure to include the completed Proposal Questionnaire with the Proposal Form will be grounds for rejection of the Proposal.**

1. Written explanations will be accepted describing why a particular section is omitted.

1.4 MANDATORY PRE-PROPOSAL CONFERENCE

A. A mandatory pre-Proposal conference will be held at 1:00 PM on Monday, April 7, 2025 at the Bates-Sheppard House, De Witt County Historical Museum, 312 E. Broadway Street, Cuero, Texas 77954 Attendance at the Pre-Proposal Conference by all prospective Proposers is **mandatory**. The purpose of the conference is to review procedures required by the Contract Documents and to **allow the attendees to pose** questions relating to the Contract Documents. The Owner and Architect-Engineer will make all clarifications they deem appropriate, and all such clarifications will be incorporated into an Addendum. **No responses to questions will be made at the conference. The Owner may elect to provide additional information regarding this project including the responses to questions posed at the Pre-Proposal Conference and any Addenda only to those prospective Proposers attending the conference.**

A principal, officer, or employee of each prospective proposer will be required to attend to obtain information and discuss the project. The Owner may condition acceptance of a Proposal on compliance with this requirement.

1.5. SELECTION CRITERIA AND SELECTION PROCEDURE

A. The Owner will base its selection on the following Selection Criteria:

1) The Proposer's demonstrated capability, as a Contractor, to perform the construction services for a historic restoration and repair project based on the Proposer's experience. [10 points]

2) The Proposer's capability to provide the resources, including financial, equipment and staffing, necessary to meet Project requirements. [10 points]

3) The qualifications and experience of the team members proposed to manage the Project for Proposer. [10 points]

4) The Proposer's demonstrated technical and management competence in the construction of historic restoration and repair projects. [10 points]

5) The Proposer's past performance on historic restoration construction projects for Texas Counties and/or other Owners. Included in this is coordination with the Texas Historical Commission for projects of similar nature. [10 points]

6) The Proposer's knowledge of current construction methodologies and technology, including its knowledge of, and experience with, (a) technological requirements for the restoration of historic wood windows and the associated

fabrication of replicated wood window sashes complete with appropriate hardware, and (b), all aspects of restoration of historic wood siding. [10 points]

7) The quality of references from past customers of Proposer. [10 points]

8) The demonstrated ability of the Proposer to meet schedules on past projects. [10 points]

9) The Proposer's safety record supported by accurate and verifiable data. [10 points]

10) The demonstrated ability of the Proposer to successfully complete past projects within the applicable construction budgets. [10 points]

11) Consideration may also be given to any additional information and comments obtained during the selection process if it reflects on the Proposer's qualifications to perform the Project.

B. The Selection Procedure is as follows:

1) At the time specified for opening proposals, the Owner will open and read aloud the names of Proposers and the prices stated in the proposal.

2) The Architect will perform a preliminary evaluate and rank each Proposal submitted, and make a recommendation based on the Selection Criteria set forth above, within 45 days after the opening of the Proposals.

3) The Owner may interview one or more Proposers. If Owner elects to do so, Architect will notify Proposers of the time and date of the interview.

4) The Owner will select the Proposer that offers the best value for the Owner based on the selection criteria and the ranking evaluation. In determining best value for the Owner, the **Owner is not restricted to considering price alone**, but may consider any other factor stated in the Selection Criteria.

5) The Owner shall first attempt to negotiate a contract with the first ranked Proposer. The Owner and its Architect may discuss with the Proposer options for a scope or time modification and any price change associated with the modification.

6) If the Owner is unable to reach an agreement with the first ranked Proposer, the Owner will formally and in writing, end negotiations with the Proposer, and proceed to the next Proposer in the order of ranking until a contract is reached or all proposals are rejected.

7) The successful Proposer will be required to execute a contract substantially in the form described in Section 00400.

1.6 PROPOSAL PROCEDURES

A Proposals must be prepared on the Proposal Form provided by the Architect, a sample copy of which is bound into the project manual. All blanks on the Proposal Form must be completed and the Proposals must be dated and signed, and the Proposal Questionnaire must be completed and submitted with the Proposal.

B. Proposals shall be submitted in a sealed envelope clearly marked with the name of the project as it appears on the cover page of the project manual, and with the Proposer's name and address in the upper left-hand corner of the envelope. If forward by mail, the sealed envelope containing the Proposal must be enclosed in another envelope addressed to the location stated on the Proposal Form.

C. Proposer may withdraw his Proposal at any time prior to the last date and time specified for submission of Proposals. A Proposer may resubmit his Proposal at any time prior to the deadline for submission of Proposals, pursuant to the Proposal procedures requirements stated herein. Once Proposals are opened, no Proposer may modify or withdraw his Proposal within ninety (90) days after the actual date of the Proposal opening.

D. No Proposal will be considered unless it is accompanied by Proposal security in the form of a cashier's check or bid bond issued by a corporate surety licensed to conduct business in the State of Texas. The cashier's check or bid bond shall be in an amount of not less than five percent (5%) of the highest total amount of the Proposal considering the base Proposal and all additive alternates and shall be payable unconditionally to the Owner. The Proposal security is required by the Owner as evidence of good faith and as a guarantee that, if awarded the contract, the Proposer will execute the contract within ten days after notification that the proposal is accepted, and furnish the required Performance and Payment Bonds and Insurance Certificate in the time specified herein, or the Owner will have the right to the amount of the cashier's check or bid bond as liquidated damages. Checks or bid bonds will be promptly returned after the Owner and successful Proposer have executed a contract, or not later than ninety (90) days after the date of opening the Proposals.

E. Proposals must be mailed or hand-delivered to:

Neomi Williams, De Witt County Auditor
102 N. Clinton, Ste. 240
Cuero, Texas 77954

F. All Proposals must be received by Owner no later than 3:00 PM on Thursday, April 17, 2025. All Proposals received after 3:00 PM will be returned to the Proposer unopened. Proposals will be opened and read aloud in the office of the De Witt County Auditor, 102 N. Clinton, Ste. 240, Cuero, Texas 77954, at 3:00 PM on Thursday, April 17, 2025.

G. A Proposal is invalid if it has not been received by Owner by the last time and date for receipt of Proposals indicated herein, or prior to any written extension thereof issued to the Proposers. Proposals received after the deadline will be returned unopened.

H. Verbal communication of any kind from any individual will not alter the requirements of this proposal.

1.7 REJECTION OF PROPOSALS

A. 1) The Proposer acknowledges the right of the Owner to reject any and all Proposals and to waive any informality or irregularity in any Proposal received. Owner reserves the right to accept or reject any or all Alternates, to accept any combination of Alternates, and to accept any Proposal considered advantageous. Owner shall have all other rights with regard to the Proposal provided by law.

2) In addition, the Proposer recognizes the right of the Owner to reject a Proposal if the Proposer failed to furnish the required Proposal security, or submit the data required by the Proposal Documents, or if the Proposal is in any way incomplete or irregular.

3) The Owner may reject a Proposal due to any irregularity, informality or non-responsiveness, including, but not limited to, any of the following:

a. Proposals which are not timely submitted
b. Proposals which are not signed.
c. Proposals which are not accompanied by required Proposal security, with Power of Attorney attached for Bid Bonds.
d. More than one Proposal for same project from an individual, firm, partnership, or corporation.
e. Failure to have an authorized agent of the Proposer attend the Pre-Proposal Conference.
f. Proposals containing omissions, alteration of form, additions, qualifications, or conditions not called for by the Owner, or incomplete Proposals may be considered in non-compliance and may be rejected. In any case of ambiguity or lack of clarity in the Proposal, Owner reserves the right to determine the most advantageous Proposal or to reject the Proposal
g Any other cause requiring or permitting rejection under applicable law.

1.8 DISCREPANCIES AND AMBIGUITIES

A. No oral explanation regarding the meaning of the drawings and specifications will be made and no oral instructions will be given before award of the contract. Each Proposer shall examine the Proposal documents carefully and, not later than ten days prior to the date for receipt of Proposals, shall make written request to the Architect for

interpretation or correction of any ambiguity, inconsistency, or error therein which he may discover. Any interpretation or correction will be issued as an Addendum by the Architect. Only a written interpretation or correction by Addendum shall be binding. No Proposer shall rely upon any interpretation or correction given by any other method.

B. Prior to the receipt of Proposals, Addenda will be mailed or delivered to each person or firm recorded by the Architect as having received the Proposal documents and having attended the mandatory Pre-Proposal Conference and will be available for inspection wherever the Proposal documents are kept for that purpose. It is the obligation of each Proposer to make sure that it has received any and all addenda prior to submitting its Proposal.

1.9 SUBMISSION OF POST-BID INFORMATION

A. Upon request by the Architect/Owner, each Proposer shall, within seven days thereafter, submit any additional information required to evaluate the Proposal, including any information on subcontractors. The Architect/Owner may discuss with any Proposer any subcontractor that Owner has reasonable objection to, or which has been disbarred from performing services for Owner.

1.10 PERFORMANCE AND PAYMENT BONDS; PERMITS

A. The Owner will require Performance and Payment bonds, within 10 days after the execution of the contract, and prior to any Work being performed in connection with the project. Each bond shall be in the amount of 100% of the contract amount, on forms supplied or approved by Owner, and shall be issued by a corporate surety authorized to do business in the State of Texas and listed on the U. S. Treasury list of acceptable sureties. All bonds must comply with Chapter 2253 of the Texas Government Code, including the requirement that such bonds must be executed by a corporate surety in accordance with Article 7.19-1 of the Texas Insurance Code. All bonds must be accompanied by a bond power of attorney

B. Copies of the required certificates for insurance and bonds will be provided to the Owner and the Architect. The bonds shall be delivered to the Owner within 10 days after the execution of the contract.

C. Contractor shall be fully responsible for all permits and fees associated thereto to be issued by the County of De Witt and/or the City of Cuero. The contractor must be registered with the City of Cuero as a certified contractor.

1.11 AWARD OF CONTRACT

The successful Proposer will be selected as described in Article V. The Commissioners Court will authorize the award of the Contract.

1.12 PREVAILING WAGE RATES AND INSURANCE REQUIREMENTS

A. Owner has established prevailing wage rates which are set out in Section 00610.

B. Owner has established insurance requirements which are set forth in Exhibit "A." Section 00500 - General Conditions.

C. Copies of the required certificates for insurance will be provided to the Owner and the Architect

1.13 LIQUIDATED DAMAGES

A. The Owner will suffer financial loss if the project is not substantially completed on the date set forth in the Contract Documents. Liquidated damages in the amount of $200.00 per calendar day may be assessed by the Owner if substantial completion is not achieved by the date for substantial completion required by the Contract Documents.

END OF SECTION 00200 - INSTRUCTIONS TO PROPOSERS

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 00210
SUPPLEMENTARY INSTRUCTIONS TO PROPOSERS

1.1 SUMMARY:

A. This section establishes the minimum standard proposal requirements for this project, as well as, procedures for post award construction. This specification section, as are all specification sections in this project manual, is part of the construction contract for the duration of the project.

1.2 COMPLETE WORK ASSEMBLY REQUIREMENTS:

A. Extent of work included in contract: The contract documents represent the overall general intent of the design and in most cases do not show all components necessary to complete each and every construction assembly for every component included in the project.

B. The contractor shall include in his base price, all elements necessary for a complete and finished installation of each and every component shown and required in these documents where detailed installation drawings or specifications are not included.

C. The contractor is wholly responsible for all information contained in the contract documents regardless of its location. Additional funds will not be allocated for items or systems not bid by the contractor or sub-contractor if said items or systems are shown in the drawings or listed in the specifications. It is assumed that all sub-contractors are issued a complete set of drawings and specifications and are wholly familiar with the project regardless of their specific discipline. Information within the contract documents related to specific items or systems affecting other disciplines may or may not be contained or scheduled in one area of the drawings or specifications and the contractor will be responsible to coordinate said items.

D. The contractor shall not break up the contract documents by section, page or division for distribution to sub contractors or other entities required to provide services to the project. The contract documents are all inclusive of the design intent and redistribution of said documents in less than their original complete form will be done so at the contractors own risk should any portion of the documented design be overlooked and not included in the base bid.

E. The contractor is fully responsible for “means and methods” to execute the work depicted in the drawings and specifications. It is not the Owners or Architects responsibility to direct the contractor in executing the construction of any building component shown or specified. The Contractor shall perform the work depicted within the contract documents utilizing expert labor or subcontract labor in each and every aspect.

1.3 BASE PROPOSAL: OMMISIONS IN THE BASE PROPOSAL FROM CONTRACT DOCUMENTS:

A. The contractor shall provide to the owner in list form, attached to the base proposal documentation, including, but not limited to all items, products and procedures located in the contract documents including contracts, drawings and specifications, identified by their location within the contract documents that are intended to be omitted from the project and

not included in the base proposal. Any item not included on the list submitted at the time of the proposal due date and subsequent award of the project, will be determined to be included in said base proposal and the responsibility of the contractor to provide and perform.

1.4 CONFLICTS OR DISCREPANCIES:

A. The inter-relation of the Specifications, the Drawings, and the Schedules is as follows:
   1. The specifications determine the nature of the setting of the various materials.
   2. The drawings establish the quantities, locations, dimensions and details.
   3. The schedules indicate finishes and provide additional information.
   4. Dimensions given on drawings take precedence over any other dimensioning method employed by the contractor. Drawings shall not be scaled.
   5. Contractor must field verify all dimensions related to proposed construction assemblies and elements.
   6. Large scale details take precedence over small scale drawings.

B. Should the drawings disagree in themselves, with the specifications, or within or among the Contract Documents and not clarified by Addendum, the better quality or greater quantity of work or materials shall be estimated upon and, unless otherwise ordered by the Architect in writing in response to a contractor inquiry or construction RFI, shall be performed or furnished.
   1. Should the lesser quality or quantity or work or materials be selected during the bid process, the contractor shall use that for his base estimate.
   2. Should the lesser quality or quantity or work or materials be determined during construction or post award, the contractor shall issue the appropriate monetary credit back to the owner for the difference between the higher quality or quantity and the lesser quality or quantity.

1.5 CURRENT CODES AND ACCESSIBILITY:

A. It is understood that the Contractor is familiar with and at all times shall observe and comply with all Federal, State, County and City Laws, Ordinances and Regulations in any manner affecting the conduct of the Work, and shall indemnify and save harmless the County and its representatives against any claim arising from the violation of, or failure to comply with any such Laws, Ordinances, or Regulations, by the Contractor or any individual either directly employed by or contracted with the Contractor.

B. It will be the responsibility of the contractor to ensure all construction, fixtures, finishes and systems are in compliance with all of the current codes.

C. It will be the responsibility of the contractor to ensure all construction, installation of fixtures, finishes and systems are in compliance with the Texas Accessibility Standards (TAS) regardless of dimensions indicated unless a specific waiver is issued by the resident Registered Accessibility Specialist (RAS) reviewer.

1.6 ENVIRONMENTAL PROTECTION

A. The Contractor shall be responsible for compliance with all applicable Environmental Protection Requirements, Codes, Regulations, Laws and Ordinances

B. The Contractor shall recognize the Environmental Requirements of the project. Disturbed areas shall be strictly limited to the boundaries established by the Architect. Avoid any pollution of any "on-site" streams, sewers, wells or other water sources.

C. Contractor shall prevent erosion of soil and excess runoff of surface or subsurface water from the construction site during the construction period.

D. All Work shall be performed in such a manner as may be required to avoid pollution of the air by dust or other contaminants.

E. No burning at the construction site shall be permitted unless prior approval is obtained from the authority having jurisdiction.

1.7 SALES TAX EXEMPTION

A. This project qualifies for exemption from state and local sales tax pursuant to the provisions of Chapter 20, Title 122A of Texas Limited Sales, Excise and Use Tax Act. The Contractor may purchase, rent or lease all materials, supplies and equipment used or consumed in the performance of this contract by issuing to his suppliers an exemption certificate in lieu of the tax; said tax exemption certificate to comply with the State Comptroller of Public Accounts Ruling 95.0.09 as amended.

END OF SECTION 00210 – SUPPLEMENTARY INSTRUCTIONS TO PROPOSERS

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 00300
PROPOSAL FORM

BATES-SHEPPARD HOUSE
EXTERIOR REPAIRS AND RESTORATION
COUNTY OF DEWITT
CUERO, TEXAS

PROPOSAL OF:_____
(Name) (Date)

TO: De Witt County Auditor
Attn: Neomi Williams
102 N. Clinton, Ste. 240
Cuero, Texas 77954

The undersigned, having carefully examined the drawings, project manual, related documents, existing building, and being familiar with all of the conditions relating to the proposed construction and the project site, hereby proposes to furnish all labor, materials, services, and equipment required for, or incidental to, the construction of the project in accordance with the contract documents and within the time set forth herein, as follows:

BASE PROPOSAL: For the sum of

_____ Dollars ($_____).

(Note: Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern.)

ALLOWANCES:

Allowance No. 1: Pre-fabricated, accessible metal ramp

_____ Dollars ($_____).

Allowance No. 2: Freestanding, metal water hose reel, quantity: 4

_____ Dollars ($_____).

Allowance No. 3: Substrate and wood framing repairs in covered / non visible areas

_____ Dollars ($_____).

Bates Sheppard House
Komatsu Architecture

UNIT PRICES PROPOSAL SCHEDULE

The following are items that are included in the base bid, but the final amount of work will be determined during the "Examination and Discovery" phase described in section 023100. Unit pricing is required to determine the final contract amount once the Contractor, Owner, and the Architect agree on the extent of work required to complete the project.

A. Unit Price No. 1: Repair, restore, refinish existing, original wood siding

Add: _____ /sf Deduct: ($_____).

B. Unit Price No. 2: Replacement wood siding and water table

Siding - Add: $_____/lf
Deduct: ($_____).

Water Table - Add: $_____/
Deduct: ($_____).

C. Unit Price No. 3: HardiBoard siding

Add: $_____/lf Deduct: ($_____).

D. Unit Price No. 4: Repair, restore, refinish, original wood windows including glass, glazing, putty, and associated hardware

Wood Components - Add: $_____/lf
Deduct: ($_____).

Glass - Add: $_____/sf
Deduct: ($_____).

Glazing Putty - Add: $_____/unit
Deduct: ($_____).

Hardware - Add: $_____/set
Deduct: ($_____).

E. Unit Price No. 5: Infill framing at removed window

Add: $_____/lf Deduct: ($_____).

F. Unit Price No. 6: Repair, restore, refinish door and associated hardware

Wood Panel - Add: $_____/sf
Deduct: ($_____).

Wood Frame - Add: $_____/lf
Deduct: ($_____).

Hardware - Add: $_____/set
Deduct: ($_____).

G. Unit Price No. 7: Replacement wood stairs at porch

Add: $_____/lf Deduct: ($_____).

H. Unit Price No. 8: Repair and refinish historic wood porch railing

Add: $_____/lf Deduct: ($_____).

I. Unit Price No. 9: Replacement wood porch railing.

Add: $_____/lf Deduct: ($_____).

J. Unit Price No. 10: Replacement steel railing at porch

Add: $_____/lf Deduct: ($_____).

K. Unit Price No. 11: Repair and refinish porch decking.

Add: $_____/sf Deduct: ($_____).

L. Unit Price No. 12: Replacement wood decking at porch.

Add: $_____/sf Deduct: ($_____).

M. Unit Price No. 13: Disconnecting and reconnecting existing mechanical, electrical, plumbing equipment, piping, conduit, etc. to remain.

Add: $_____/unit Deduct: ($_____).

N. Unit Price No. 14: Repairs and/or replacement of existing roof flashing at siding interface.

Add: $_____/unit Deduct: ($_____).

O. Unit Price No. 15: Interior, pressure fit storm window

Add: $_____/unit Deduct: ($_____).

P. Unit Price No. 16: Critter prevention screen system

Add: $_____/sf Deduct: ($_____).

REPAIRS PROPOSAL SCHEDULE

Contractor to develop Repairs Proposal Schedule based on construction documents provided and site observations. It is the contractors responsibility to field verify all quantities.

(Note: Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern.)

Refer to Sections 01010 for hazardous materials abatement and disposal for work under Unit Prices where applicable.

REPAIRS PROPOSAL SCHEDULE

Item No.	Unit Price No.	Description	Estimated Quantity	Unit	Unit Price	Unit Price
1.0	NA				$_____.__	$_____.__
TOTAL						$_____.__

ABBREVIATIONS AND DEFINITIONS:

A. Abbreviations

1. c.f. - cubic feet/foot
2. l.f. - linear feet/foot

3. s.f. - square feet/foot
4. NA - not applicable

B. Definitions

1. Job - quantity determined during bid survey
2. Set - a unit that includes all elements required to install a working product
3. Unit - total quantity in a single lump sum

CONDITION SURVEY ITEMS:

A. An existing conditions and treatment survey shall be submitted as part of the base bid for the window, door, and wood siding scopes of work. The following information must be provided in the bid package. The restoration construction drawings indicate the observed condition and anticipated treatment. Contractor to verify all elevations, components, and quantities.

1. Attachment A: Window Survey
    a. Provide one form for each window with window type elevation. Include window number as shown on floor plans.
    b. State overall condition (i.e. replace or restore)
    c. If window is to be restored, list all work to be done to window.
    d. Graphically note the repairs on window elevation.
2. Attachment B: Door Survey
    a. Provide one form for each door with door type elevation. Include door number as shown on floor plans.
    b. State overall condition (i.e. replace or restore)
    c. If door is to be restored, list all work to be done to window.
    d. Graphically note the repairs on door elevation.
3. Attachment C: Wood Siding Survey form
    a. Provide mark up of each major elevation.
    b. Indicate areas of wood siding restoration.
    c. Indicate areas of wood siding replacement.
    d. Indicate all other types of repairs as required.

PROPOSAL SCHEDULE NOTES:

A. ARITHMETIC DISCREPANCIES

1. For the purpose of initial evaluation of Proposals, the following will be utilized in resolving arithmetic discrepancies found on the face of the bidding schedule as submitted by Proposers:

    a. Obviously misplaced decimal points will be corrected;

b. In case of discrepancy between unit price and extended price, the unit price will govern;

c. Apparent errors in extension of unit prices will be corrected; and

d. Apparent errors in addition of lump-sum and extended prices will be corrected.

2. For the purpose of the Proposal evaluation, the Owner will proceed on the assumption that the Proposer intends his Proposal to be evaluated on the basis of the unit prices, extensions, and totals arrived at by resolution of arithmetic discrepancies as provided above and the Proposal will be so reflected on the abstract of bids.

3. These correction procedures shall not be used to resolve any ambiguity concerning which Proposal is low.

B. If a modification to a Proposal based on unit prices is submitted, which provides for a lump sum adjustment to the total estimated cost, the application of the lump sum adjustment to each unit price in the Proposal schedule must be stated. If it is not stated, the Proposer agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the Proposal schedule.

C. Proposers must submit proposals on all items.

D. Proposers must submit proposals on all items on any schedule which is proposed.

E. Costs attributable to Division 01 - General Requirements are assumed to be prorated among proposal items listed.

F. Proposers are advised that this requirement may be delayed, canceled or revised by the Owner at any time during the solicitation, selection, evaluation, negotiation and/or final award process.

G. ALTERNATES: Refer to Alternates bidding schedule.

CONSTRUCTION SCHEDULE

Proposers shall submit in graphic form formatted for ease of evaluation the anticipated duration of construction on schedule form. The schedule shall include a general break down of major milestones and work to be performed under section 023110 Examination and Discovery.

TIME OF PERFORMANCE

The undersigned agrees to commence and achieve completion of the work prescribed as Base Proposal within _____ consecutive calendar days after the date of the Notice to Proceed. In the event of additional unit price work requested by the Owner, the Scope of Work, the completion time, and Contract Price shall be adjusted accordingly.

The undersigned further agrees that should any change in the work or extra work be ordered, the following percentages shall be added to material and labor costs to cover overhead and profit. It is understood that the terms "overhead and profit" shall be as defined in Item No. 11 of the Supplementary Conditions.

ALLOWANCE TO CONTRACTOR FOR WORK PERFORMED WITH ITS OWN FORCES SHALL NOT EXCEED 10%.

ALLOWANCE TO CONTRACTOR FOR WORK NOT PERFORMED WITH ITS OWN FORCES SHALL NOT EXCEED 5%.

ALLOWANCE TO SUBCONTRACTOR FOR WORK PERFORMED BY ITS OWN FORCES SHALL NOT EXCEED 10%.

ALLOWANCE TO SUBCONTRACTOR FOR WORK PERFORMED BY OTHER THAN ITS OWN FORCES SHALL NOT EXCEED 5%.

The undersigned further agrees, if awarded the contract, to execute contract within ten calendar days after notification of award; and to commence work not later than ten calendar days from date of "Notice to Proceed" from the Owner.

The undersigned hereby acknowledges receipt of the following addenda to the drawings and project manual, all of the provisions and requirements of which have been taken into consideration in preparation of the foregoing proposal:

Addendum No. ____ Date _____ Addendum No. ____ Date _____

Addendum No. ____ Date _____ Addendum No. ____ Date_____

SEGREGATED COSTS SCHEDULE

In order to assist the Owner in evaluating the proposals received, the Base Proposal is broken down in the following building construction costs:

Item No.	Discipline/Sub-Scope	Bid Amount
1	General & Supplementary Conditions	$
2	Demolition	$
6	Wood	$

8	Doors and Windows	$
9	Finishes	$

Bates Sheppard House
Komatsu Architecture

THE PROPOSER'S RESPONSE TO THE PROPOSAL QUESTIONAIRE IS ATTACHED TO THIS PROPOSAL.

THE PROPOSER'S PROPOSAL SECURITY IS INCLUDED WITH THIS PROPOSAL.

Respectfully Submitted,

Contractor/Firm Name	Business Address
Authorized Signature	City/State/Zip
Printed Name	Contact Telephone

(Seal - if proposal is by a corporation)

PROPOSAL QUESTIONNAIRE TO BE PROVIDED BY PROPOSER ALONG WITH PROPOSAL FORM.

PROPOSAL QUESTIONNAIRE

Proposers are requested to submit a complete response to each of the items listed below. Responses requiring additional space should be brief and submitted as an attachment to the Proposal Questionnaire.

1. Legal name of the company: _____
   Address of office which would be providing service: _____
   _____
   Number of years in Business: _____
   Type of Operation: Individual: ___ Partnership: ___ Corporation: ___
   Number of Employees: _____
   Annual Sales Volume: _____

2. State whether you will provide a copy of your company's financial statements for the past two (2) years, if requested by the Owner.

3. Is your company currently for sale or involved in any transaction to expand or to become acquired by another business entity? If yes, please explain the impact both in organizational and directional terms.

4. Provide any details of all past or pending litigation or claims filed against your company arising out of or in connection with your company's performance under a contract for construction management and/or construction services. Describe how such suit or claims were resolved.

5. Is your company currently in default on any loan agreement or financing agreement with any bank, financial institution, or other entity? If yes, specify date(s), details, circumstances, and prospects for resolution.

6. Does any relationship exist between your company and any of Owner's officers or employees whether by relation, business associate, capital funding agreement or any other such kinship? If yes, please explain.

7. What difficulties do you anticipate in serving the Owner and how do you plan to manage these? What assistance will you require from the Owner?

8. Describe your company's service support philosophy, how is it carried out, and how success in keeping this philosophy is measured.

9. Provide details regarding any special services or product characteristics, or other benefits offered, or advantages in the Owner selecting your company.

10. Describe your firm's past performance on other contracts for the Owner.

11. Describe the types of records, reports, monitoring systems, and information management systems which your firm used in the management of the projects listed above. Describe how you used these systems for three of the projects listed in response to items 15, 16 or 17.

12. Describe your firm's management methodologies for the Project.

13. For three of the projects listed below in response to items 15, 16 and 17, describe conflicts or potential conflicts with the Owner or with trade contractors, and describe the methods used to prevent and/or resolve those conflicts.

14. Provide a comprehensive list of all team members/key individuals; at a minimum, the site superintendent and project manager, to be assigned to the project together with a short resume for each; resume to include brief description of:
    a. Education
    b. Professional experience; indicate years in different areas of the industry
    c. Professional Memberships and Certifications,
    d. Overview of Recent Projects Completed.
    e. Statement of current project/workload commitment.

15. Provide Similar Experience by the Firm – <u>Historic Preservation and Restoration Projects</u>
    *Where the experience in this area may be that of the key individuals that will be assigned to the project, clarify if individual or firm experience for each project listed.
    a. Provide a brief summary of each project including:
        i. Project Title,
        ii. Location
        iii. Brief Listed Description of the Project including
            1. basic scope,
            2. SF area
            3. Project value (final cost)
            4. Start date, completion date,
            5. Owner
            6. Owner reference including
                a. Name of Contact,
                b. Address of contact,
                c. Telephone number, fax number
            7. Architect reference including
                a. Name of Contact,
                b. Address of contact,
                c. Telephone number, fax number
            8. Paragraph addressing a more comprehensive description of the project detailing scope and any specialized operations. Explain requirements of the Owner that had an impact on the Project.
            9. Photograph of the Project (overall exterior and/or of the work performed by your company)

16. Provide Similar Experience by the Firm – <u>Any Restoration Project administered</u> <u>by the Texas Historical Commission</u>
    * Where the experience in this area may be that of the key individuals that will be assigned to the project, clarify if individual or firm experience for each project listed.
    a. Provide a brief summary of each project including:
        iv. Project Title,
        v. Location
        vi. Brief Listed Description of the Project including
            1. Basic scope,

2. SF area
3. Project value (final cost)
4. Start date, completion date,
5. Owner
6. Owner reference including
   a. Name of Contact,
   b. Address of contact,
   c. Telephone number, fax number
7. Architect reference including
   a. Name of Contact,
   b. Address of contact,
   c. Telephone number, fax number
8. Paragraph addressing a more comprehensive description of the project detailing scope and any specialized operations. Explain requirements of the Owner that had an impact on the Project.
9. Photograph of the Project (overall exterior and/or of the work performed by your company)

17. Would you propose to perform any of the work with your own forces? List the categories of work that your firm would normally perform with your own forces.

18. Describe the experience by your firm or individuals that will be assigned to the project with any of the following:
(a) technological requirements for the restoration of historic wood windows and the associated fabrication of replicated wood window frames and/or sashes complete with appropriate hardware,
(b) all aspects of restoration of historic masonry including limestone, marble, cast stone, brick and terra cotta assemblies,
(c) decorative sheet metals, cornices, etc.; restoration and replication
(d) new sheet metal, metal cupolas,
(e) Decorative plaster,
(f) decorative painting; stencils, faux graining,
(g) vault doors, safes restoration
State whether any of these methods were used on the projects listed in item 16, and if so, which projects. Would you recommend using any of these methods for this Project? Why or why not?

19. The Owner, realizing the complexity and extent of certain aspects of the Historic Restoration has requested that you indicate your proposed intention in performing the major historic elements scopes as listed above in 19. Indicate the professional entity that you would propose to contract with including those scopes you would be self-performing.

20. Describe your company's quality assurance program, what are your company's requirements, and how are they measured? In particular, describe the way your firm maintains quality control during the pre-construction and construction phases. For three of the projects listed in response to this Section, provide specific examples of how these techniques were used.

21. Describe the way in which your firm develops and monitors construction budgets and cost control methods for the preconstruction and construction phases. How do you develop cost estimates and how often are they updated? How often do you compile your actual cost information during a project and compare it with your estimated construction costs? For three of the projects listed in response to item #16, provide examples of how these techniques were used and what degree of

accuracy was achieved. Include examples of a successful constructability program used to maintain project budgets without sacrificing quality. Include budget challenges and how your firm helped solve them.

22. Provide customer reference letters from no less than three (3) public entities with which Respondent currently has contracts and/or has previously provided construction management services of equal type and scope within the past five (5) years. **DO NOT USE REFERENCES FROM CURRENT DEWITT COUNTY OFFICIALS.**

23. Provide contact information for no less than three (3) trade references.

24. Describe the way in which your firm develops and maintains project schedules. How often do you update schedules? For three of the projects listed in response to this Section, provide examples of how these techniques were used. Include specific examples of scheduling challenges, and how your firm helped solve them.

25. Provide your company's safety Experience Modifier Rate (EMR), Recordable Incident Rate (RIR) and your Loss Indicator Rate (LIR).

26. Has your company, or any subcontractors under your control on a project, had a death on a project site. If yes, provide additional information.

END OF SECTION 00300 - PROPOSAL FORM

* * * THIS PAGE INTENTIONALLY LEFT BLANK * * *

SECTION 00400
CONTRACT AGREEMENT

Contract Form will be the American Institute of Architects "Standard Form of Agreement between Owner and Contractor", AIA Document A-101, 2007 Edition **as amended** by Owner. Copies of the Contract Form are on file in the office of the Architect and may be viewed there.

END OF SECTION 00400 - CONTRACT AGREEMENT

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 00500
THE AMERICAN INSTITUTE OF ARCHITECTS
GENERAL CONDITIONS OF THE CONTRACT
FOR CONSTRUCTION

Articles 1 through 14 of the General Conditions of the Contract for Construction, AIA Document A201 - 2007 Edition, **as revised by Owner**, inclusive of the referenced conditions are hereby made a part of the Contract Documents, the same as if printed in full and bound into each and every separate set. The General Conditions and all modifications listed hereinafter shall apply to the General Contract and all subcontracts.

The General Conditions Documents may be reviewed in the office of the Architect or may be purchased from the following places:

The American Institute of Architects
1735 New York Avenue NW
Washington, DC 20006

Texas Society of Architects
114 W. 7th Street Suite 1400
Austin, Texas 78701

AIA Fort Worth Chapter
1425 Eighth Avenue, Suite 100
Fort Worth, Texas 76104

AIA Dallas Chapter
2811 McKinney Avenue Suite 20
Dallas, Texas 75204-2537

END OF GENERAL CONDITIONS

EXHIBIT "A"
Insurance Requirements

(1) General Requirements.

Contractor shall carry insurance in the types and amounts indicated below for the duration of the Contract, which shall include items owned by Owner in the care, custody and control of Contractor prior to and during construction and warranty period.

Contractor must complete and forward the Certificate of Insurance to Owner before the Contract is executed as verification of coverage required below. Contractor shall not commence Work until the required insurance is obtained and until such insurance has been reviewed by Owner. Approval of insurance by Owner shall not relieve or decrease the liability of Contractor hereunder and shall not be construed to be a limitation of liability on the part of Contractor. Contractor must also complete and forward the Certificate of Insurance to Owner whenever a previously identified policy period has expired as verification of continuing coverage.

Contractor's insurance coverage is to be written by companies licensed to do business in the State of Texas at the time the policies are issued and shall be written by companies with A.M. Best ratings of A-VII or better.

All endorsements naming the Owner as additional insured, waivers, and notices of cancellation endorsements as well as the Certificate of Insurance shall indicate: Owner, and the address set forth for Owner in the Agreement.

The "other" insurance clause shall not apply to the Owner where the Owner is an additional insured shown on any policy. It is intended that policies required in the Contract, covering both Owner and Contractor, shall be considered primary coverage as applicable.

If insurance policies are not written for amounts specified below, Contractor shall carry Umbrella or Excess Liability Insurance for any differences in amounts specified. If Excess Liability Insurance is provided, it shall follow the form of the primary coverage.

Owner shall be entitled, upon request and without expense, to receive certified copies of policies and endorsements thereto and may make any reasonable requests for deletion or revision or modification of particular policy terms, conditions, limitations, or exclusions except where policy provisions are established by law or regulations binding upon either of the parties hereto or the underwriter on any such policies.

Owner reserves the right to review the insurance requirements set forth during the effective period of this Contract and to make reasonable adjustments to insurance coverage, limits, and exclusions when deemed necessary and prudent by Owner based upon changes in statutory law, court decisions, the claims history of the industry or financial condition of the insurance company as well as Contractor. Provided, however, in event of any such adjustments by Owner, Contractor shall be entitled to a Change Order for any increased costs Contractor incurs as a result of such adjustments.

Contractor shall not cause any insurance to be canceled nor permit any insurance to lapse during the term of the Contract or as required in the Contract.

Contractor shall be responsible for premiums, deductibles and self-insured retentions, if any, stated in policies. All deductibles or self-insured retentions shall be disclosed on the Certificate of Insurance.

Contractor shall provide Owner thirty (30) days written notice of erosion of the aggregate limits below occurrence limits for all applicable coverages indicated within the Contract.

If Owner owned property is being transported or stored off-site by Contractor, then the appropriate property policy will be endorsed for transit and storage in an amount sufficient to protect Owner's property.

The insurance coverages required under this contract are required minimums and are not intended to limit the responsibility or liability of Contractor.

(2) Business Automobile Liability Insurance. Provide coverage for all owned, non-owned and hired vehicles. The policy shall contain the following endorsements in favor of Owner or such alternate endorsement designations as Owner may hereafter specify:

a) Waiver of Subrogation endorsement TE 2046A;

b) 30 day Notice of Cancellation endorsement TE 0202A; and

c) Additional Insured endorsement TE 9901 B.

Provide coverage in the following types and amounts:

A minimum combined single limit of $500,000 per occurrence for bodily injury and property damage. Alternate acceptable limits are $250,000 bodily injury per person, $500,000 bodily injury per occurrence and at least $100,000 property damage liability each accident.

(3) Workers' Compensation And Employers' Liability Insurance. Coverage shall be consistent with statutory benefits outlined in the Texas Workers' Compensation Act (Section 401). Contractor shall assure compliance with this Statute by submitting two (2) copies of a standard certificate of coverage (e.g. ACCORD form) to Owner for every person providing services on the Project as acceptable proof of coverage. The Certificate of Insurance must be presented as evidence of coverage for Contractor. Workers' Compensation Insurance coverage written by the Texas Workers Compensation Fund is required, unless Owner agrees otherwise in writing. Contractor's policy shall apply to the State of Texas and include these endorsements in favor of Owner:

a) Waiver of Subrogation, form WC 420304; and

b) 30 day Notice of Cancellation, form WC 420601.

The minimum policy limits for Employers' Liability Insurance coverage shall be as follows:

$500,000 bodily injury per accident, $500,000 bodily injury by disease policy limit and $500,000 bodily injury by disease each employee.

(**4**) **Commercial General Liability Insurance.** The Policy shall contain the following provisions:

a) Blanket contractual liability coverage for liability assumed under the Contract and all contracts relative to this Project.

b) Completed Operations/Products Liability for the duration of the warranty period.

c) Explosion, Collapse and Underground (X, C & U) coverage.

d) Independent Contractors coverage.

e) Aggregate limits of insurance per project, endorsement CG 2503.

f) Owner listed as an additional insured, endorsement CG 2010.

g) 30 day notice of cancellation in favor of Owner, endorsement CG 0205.

h) Waiver of Transfer of Recovery Against Others in favor of Owner, endorsement CG 2404.

Provide coverages A&B with minimum limits as follows:

A combined bodily injury and property damage limit of $2,000,000 per occurrence.

(5) Builders' Risk Insurance. Contractor shall maintain Builders' Risk Insurance on an all risk physical loss form in the full value of the Contract Sum as the same may be adjusted by Change Order. Coverage shall continue until the Work is accepted by Owner. Owner shall be a loss payee on the policy. If off site storage is permitted, coverage shall include transit and storage in an amount sufficient to protect property being transported or stored. The insurance shall include coverage for loss of use of Owner's property due to fire or other hazards covered by such insurance.

(6) Umbrella Excess Liability Coverage in an amount of not less than One Million Dollars ($1,000,000), combined single limit bodily injury/property damage with coverage to be in excess of the employer's liability, commercial general liability, and automobile liability insurance required above for each occurrence and in the aggregate. Owner shall be listed as an additional insured. A waiver of subrogation endorsement shall be obtained in favor of Owner, and a 30 day notice of cancellation endorsement in favor of the Owner.

Subcontractor Insurance Requirements:

(1) Unless waived by Owner, the following forms of insurance are the minimum coverage requirements to be furnished by all Subcontractors, and deductibles shall not exceed ten thousand dollars ($10,000). The Contractor has the option to require higher limits of liability from designated Subcontractors in the form of primary or excess liability coverage.

a) Workers' compensation insurance to cover full liability under Workers' Compensation Laws of the State of Texas with employer's liability coverage in limit not less than Five Hundred Thousand Dollars ($500,000.00).
b) Commercial general liability insurance coverage shall be on an "occurrence" basis and shall insure the Subcontractor against claims related to Work performed under the Subcontract for

bodily injury, including death of any person other than the Trade Contractor's employees, and property damage for injury to or destruction of tangible property, other than the Work itself. The policy shall contain the personal injury and broad form property damage endorsements modified as set forth below, and the policy exclusions pertaining to loss by explosion, collapse or underground damage. Owner and Contractor are to be named as additional insured. The policy shall include the following Overages and limits:

(i) Completed operations liability
(ii) Contractual liability insuring the indemnification agreement contained in the Trade Contract
(iii) Personal injury liability with employee's exclusion deleted
(iv) Broad form property damage extended to apply to completed operations
(v) Automobile liability insuring Trade Contractor for operations of all owned, hired and non-owned vehicles
(vi) Limits of liability shall not be less than:
  (A) Bodily injury, except automobile:
    (I) $1,000,000 each occurrence
    (II) $1,000,000 aggregate
  (B) Property damage, except automobile:
    (I) $1,000,000 each occurrence
    (II) $1,000,000 aggregate
  (C) Bodily injury: Automobile
    (I) $500,000 each person
    (II) $1,000,000 each occurrence
  (D) Property damage: Automobile
    (I) $500,000 each occurrence
  (E) Umbrella excess liability $0

(2) All policies are to be written through a company duly authorized to transact that class of insurance in the State of Texas, with an A.M. Best Rating of A-VII or better.

(3) Any of such insurance policies may be written in combination with any of the others, where legally permitted, but none of the specified limits may be lowered thereby.

(4) Contractor's Subcontracts shall provide for reasonable indemnification of the Owner and the Architect for adequate insurance coverage, and contain such other clauses as may be required to fully protect Owner and Contractor's interests.

END OF SECTION 00500 - GENERAL CONDITIONS

SECTION 00600
SUPPLEMENTARY CONDITIONS

The following supplements modify, change, delete from, or add to the General Conditions of the Contract for Construction, AIA Document A201, copyright 2007. Where any article of the General Conditions is modified or any paragraph, subparagraph, or clause thereof is modified or deleted by these supplements, the unaltered provisions of that article, paragraph, subparagraph, or clause shall remain in effect.

ARTICLE 1 - CONTRACT DOCUMENTS

1. Add the following after subparagraph 1.1.7:

   1.1.8 Miscellaneous Definitions:

   1.1.8.1 Product: The term product as used in these Supplementary Conditions, includes materials, systems and equipment.

2. Add the following after subparagraph 1.2.4:

   1.2.4.1 The inter-relation of the Specifications, the Drawings, and the Schedules is as follows: The specifications determine the nature of the setting of the various materials; the drawings establish the quantities, dimensions and details; and the schedules give the locations. Should the drawings disagree in themselves or with the specifications, the better quality or greater quantity of work or materials shall be estimated upon and, unless otherwise ordered by the Architect in writing, shall be performed or furnished. Explanatory notes on drawings take precedence over specifications. Figures given on drawings take precedence over scaled measurements, and large scale details take precedence over small scale drawings.

ARTICLE 2 - OWNER

3. Add the following to subparagraph 2.1.1:

   2.1.1.1 Owner as used herein and throughout the Contract Documents refers to:

   The County of DeWitt
   307 N. Gonzles Street
   Cuero, Texas 77954

ARTICLE 3 - CONTRACTOR

4. Add the following after subparagraph 3.3.4:

   3.3.5 The Contractor shall be responsible for the satisfactory and complete execution of the work described in the Contract Documents. The Contractor represents that he has

carefully examined all drawings and specifications for the work to be performed; that he has made investigations essential to a full understanding of any difficulties which he may encounter; that he has the experience and necessary personnel, equipment, and material at his disposal to complete the work in such a manner that it will be watertight and weatherproof throughout.

3.3.6 The Contractor shall be responsible for the proper fitting of all work, and for the coordination of the operations of all trades, other contractors, subcontractors and material suppliers engaged upon or in connection with the work. The Contractor guarantees to each of his subcontractors all dimensions which they may require for the fitting of their own work to adjoining work, and he shall do, or shall cause his agents to do, all fitting and adjusting necessary to make the several parts of the work come together properly. He shall fit the work to receive, or be received by, the work of other contractors.

3.3.7 Should the Contractor have any objection to the use of any material or method specified or detailed on the drawings, or, if for any reason whatsoever the Contractor is not willing to assume full responsibility for performance of materials and the water-tightness of the construction, then he shall notify the Architect in writing before commencing the work to which objections are made. Unless such objections are substantiated and an adjustment made in writing, the Contractor shall proceed with the work as called for in the specifications and detailed on the drawings.

3.4.1.2 Requests for the substitution of products in lieu of those specified will be considered by the Owner and Architect in accordance with the provisions of Section 01605.

6. Add the following after subparagraph 3.6.1:

3.6.2 This project qualifies for exemption from state and local sales tax pursuant to the provisions of Chapter 20, Title 122A of Texas Limited Sales, Excise and Use Tax Act. The Contractor will purchase, rent or lease all materials, supplies and equipment used or consumed in the performance of this contract by issuing to his suppliers an exemption certificate in lieu of the tax; said tax exemption certificate to comply with the State Comptroller of Public Accounts Ruling 95.0.09 as amended.

7. Add the following after subparagraph 3.12.11:

3.12.12 Contractor shall check all shop drawings for completeness prior to submittal to Architect. Shop Drawings are to be reviewed and stamped by the Contractor for coordination of work and conformance with the Drawings and Specifications prior to submission to the Architect. If shop drawings are submitted incomplete, Architect will send them back to Contractor unchecked.

3.12.13 Transportation charges to the Architect’s office shall be pre-paid on all submittals.

ARTICLE 4 - ADMINISTRATION OF THE CONTRACT

8. Add the following after subparagraph 4.1.1:

4.1.1.1 Architect, as used herein and throughout the Contract Documents refers to:

Komatsu Architecture, Inc.
3880 Hulen St. Suite 300
Fort Worth, Texas 76107

9. Add the following after subparagraph 4.3.7:

4.3.7.1 Requests for changes in the work shall be accompanied by an itemized breakdown of all increases or decreases in the cost of the Contractor's and all subcontractor's work, in the following detail:

Material quantities and unit costs
Labor rates and number of hours for each trade, identified with specific item of material to be placed or operation to be performed.
Construction equipment
Workmens' Compensation and public liability insurance
Overhead
Profit
Employment taxes under FICA and FUTA.

ARTICLE 5 - SUBCONTRACTORS

10. Delete paragraph 5.2.4 in its entirety and substitute the following:

5.2.4 The Contractor shall make no substitutions for any subcontractor, person or entity named in the bid proposal form without prior approval of the Owner.

ARTICLE 7 - CHANGES IN THE WORK

11. Add the following to Clause 7.3.3.3:

Cost shall be limited to the following: Cost of materials and cost of delivery, cost of labor, including social security, old age and unemployment insurance, and fringe benefits under collective bargaining agreement, workmen's compensation insurance, bond premiums, and rental value of power tools and equipment. Overhead shall include the following: supervision, superintendence, wages of time keepers, watchmen and clerks, hand tools, incidentals, general office expense and all other expenses not included in cost. If the net value of a change results in a credit from the subcontractor, the credit shall be the net cost without overhead and profit.

12. In subparagraph 7.3.6, in the first sentence, change the words, A . . . a reasonable allowance for overhead and profit to read . . . an allowance for overhead and profit not to exceed the percentage shown in the Bid Form and in accordance with subparagraph 7.3.3."

ARTICLE 8 - TIME

13. Add the following after subparagraph 8.2.2:

8.2.2.1 Absolutely no construction or improvements shall commence until a written Notice to Proceed is received from the Owner.

14. Add the following after subparagraph 8.3.1:

8.3.1.1 Anticipated Delays Due to Normal Weather Conditions: The time stated on the Bid Form for completion of the entire work shall include the number of calendar days on which it can be reasonably anticipated that normal weather conditions during the construction period will prevent the performance of construction operations, but shall be not less than that shown in the weather table included in the project manual. The weather table indicates historical meteorological data in the area of the construction project, and will be used as the basis to determine contract time extensions due to abnormally inclement weather.

8.3.1.2 Delays Due to Abnormal Weather Conditions: For the purpose of this contract, abnormal inclement weather will be defined as the number of days in excess of the normal on which rainfall exceeds 0.01 inch or snow/ice pellets exceed 1.0 inch. In case of claims for extension of time due to abnormal inclement weather, such extensions of time will be granted only if, in the judgment of the Architect, the Contractor was prevented from performing major items of work on normal working days.

8.3.1.3 Extensions of Time Due to Abnormal Weather Conditions: The Contractor shall maintain an accurate record of all weather-related delays; he shall submit this information to the Architect monthly, together with his Application for Payment. This information will be retained by the Architect until the completion of construction operations at which time a change order will be prepared to include any extension of the contract completion date because of abnormal inclement weather. No time extension for delays due to weather conditions will be allowed until and unless the total number of such delays exceeds the time included in the contractor=s proposal for delays due to normal weather conditions. Any extension of the contract completion date will be based on calendar days; i.e., Saturdays, Sundays and holidays will be considered in granting an extension of time. ***The period for recording delay days due to weather will commence only with the date of the Owner's written Notice to Proceed.***

8.3.1.4 Extensions of time due to, but not limited to, delays caused by construction errors requiring repair or reconstruction, improperly prepared and/or rejected submittals, improperly prepared and/or rejected mock ups, request for information (RFI) responses

deemed not to rule in favor of the contractor, or failure to meet any requirements of the project documents leading to delays in the project schedule, will not be granted.

ARTICLE 9 - PAYMENTS AND COMPLETION

15. Add the following after subparagraph 9.2.1:

9.2.2 The Schedule of Values shall be prepared in such a manner that each major item of work, and each subcontracted item of work, is shown as a single line item on AIA Document G703, Application and Certificate of Payment, Continuation Sheet.

16. Add the following after Clause 9.3.1.2:

9.3.1.3 The form of Application for Payment shall be AIA Document G702, Application and Certificate for Payment, supported by AIA Document G703, Continuation Sheet or an approved substitute form that provides the same information and in similar format.

17. Add the following after subparagraph 9.6.1:

9.6.1.1 Until final payment, the Owner will pay 95% of the amount due the Contractor on account of progress payments.

18. Add the following after subparagraph 9.10.2:

9.10.2.1 Rights and liabilities of the Owner and Contractor in regard to claims for unpaid bills arising by virtue of the contract are prescribed by applicable provisions of Chapter 53 of the Property Code as enacted by the 68th Texas Legislature, 1983. A copy of the Owner-Contractor agreement together with a copy of the Payment Bond shall be filed in the office of the County Clerk in the county in which the project is located.

ARTICLE 11 - INSURANCE AND BONDS

19. Subparagraph 11.1.1: In the second line following the word companies, insert the words Aacceptable to the Owner.

20. Delete the word “and” at the end of the Clause 11.1.1.6 and add the following after Clause 11.1.1.7:

11.1.1.8 Liability insurance shall include all major divisions of coverage and be on a comprehensive basis including:

.1 Premises - operations (including X-C-U)
.2 Owned, non-owned and hired vehicles
.3 Broad form coverage for property damage

21. Add the following after subparagraph 11.1.2:

    .1 Workmen's Compensation - statutory
    .2 Comprehensive General Liability
        .1 Bodily Injury - $300,000 each person / $500,000 each occurrence
        .2 Personal Injury - $300,000 each person / $500,000 aggregate
        .3 Property Damage - $50,000 each person / $100,000 each occurrence
    .3 Automobile Liability
        .1 Bodily Injury - $300,000 each person / $100,000 each occurrence
        .2 Property Damage - $100,000 each occurrence
    .4 Contractual Liability - same limits as Comprehensive General Liability
    .5 Liability insurance may be arranged by Comprehensive General Liability and Comprehensive Automobile Liability policies for the full limits required; or by a combination of underlying Comprehensive Liability policies for lesser limits with the remaining limits provided by an Excess or Umbrella Liability policy in the amount of $1,000,000.00.

22. Add the following after subparagraph 11.1.3:

    11.1.3 Furnish one copy of certificates herein required for each copy of the Agreement; specifically set forth evidence of all coverage required by subparagraphs 11.1.1 and 11.1.2. The form of the certificate shall be AIA Document G705. Furnish to the Owner copies of any endorsements that are subsequently issued amending coverage or limits.

23. Delete the first sentence of subparagraph 11.3.1 and substitute the following:

    The Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, and with which the Owner has no reasonable objection, property insurance in the amount of the initial Contract Sum as well as subsequent modifications thereto for the entire Work at the site on a replacement cost basis without voluntary deductibles.

24. Delete Clause 11.3.1.2 in its entirety and replace with the following Clause:

    11.3.1.2 Contractor shall purchase Builder's Risk and Fire and Extended Insurance Coverage, providing evidence of such coverage consisting of either a Certificate of Insurance, Insurance Binder or the Policy. The insurance must be in no less than the amount of the loan, cover existing buildings and the new construction and be endorsed to name to County of DeWitt, Cuero, Texas.

25. Delete subparagraph 11.3.4 in its entirety.

26. Delete subparagraph 11.3.6 in its entirety and substitute the following:

    11.3.6 The Contractor shall file the original and one certified copy of all policies with the Owner and Architect before exposure to loss may occur. If the Owner is damaged by the failure of the Contractor to maintain such insurance and so notify the Owner, then the Contractor shall bear all reasonable costs properly attributable thereto.

27. Delete the first sentence of subparagraph 11.3.8 and substitute the following:

A loss insured under Contractor's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of subparagraph 11.3.10.

28. Add the following after subparagraph 11.4.2:

11.4.3 Contractor shall furnish and pay for Performance Bond and Payment Bond covering the full amount of the contract price in favor of the County of DeWitt, Cuero, Texas. Furnish bonds in executed original and two executed copies with necessary power-of-attorney certificates issued by a surety company acceptable to the Owner, licensed to do business in the state in which the project is located, and holding Certificate of Authority as acceptable Surety on Federal Bonds. The bonds shall be delivered to the Owner within 10 days after the date of execution of the contract.

11.4.3.1 Performance Bond shall guarantee completion of the project in the event the Contractor fails to perform his duties.

11.4.3.2 Material Payment Bond shall guarantee that payment has been made, or will be made, for all materials purchased for the work.

11.4.4 Should the Owner choose to act as its own General Contractor, all subcontractors must be bonded individually in the amounts of their contracts.

ARTICLE 14 - TERMINATION OR SUSPENSION OF THE CONTRACT

29. Add the following after subparagraph 14.3.1:

14.3.1.1 Should the Owner be compelled at any time, during the stipulated 90 day period after the signing of the contract and before the Notice to Proceed, to postpone, abandon, or otherwise discontinue the work, for whatever reasons which shall remain the sole knowledge of the Owner, the Contract may be voided in its entirety by the Owner with no penalty whatsoever to the Owner.

END OF SECTION 00600 - SUPPLEMENTARY CONDITIONS

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 00605

CONTRACTUAL COMPLIANCE REQUIREMENTS

PART 1 – GENERAL

1.1. The following contractual requirements shall apply to all contracts and agreements for materials, labor, and construction work done for the Bates-Sheppard House Exterior Repairs and Restoration project. In case of any noted conflicts it shall immediately be brought to the attention of the Owner and Architect.

1.2. These requirements are in effect upon the awarding of the project to the successful proposer.

A. The contractor, within seven days of the awarding of the contract, shall furnish in writing the names of the superintendent and project manager that will be assigned to the project.

1. The Owner and/or Architect reserve the right to object to or request the removal of an individual assigned to the project.
2. The Owner and/or Architect reserve the right to request that an individual be replaced at any time during the project when there is a reasonably valid reason to do so.
3. The contractor may not remove or replace any approved project personnel without 30 days written notice and the approval of the Owner and the Architect.
4. The contractor shall submit the name and qualifications for the proposed replacement individual for review and approval by the Owner or Architect prior to removal of the current individual being replaced.

B. The contractor shall furnish in writing to the Owner and Architect, within a reasonable amount of time after award of the contract and prior to the pre construction meeting, a list of all Subcontractors and suppliers proposed for each principal scope of work.

1. The Owner or Architect may in writing express reasonable objection to any proposed person or entity.
2. The contractor shall submit another qualified subcontractor or supplier to the Owner or Architect for approval.
3. The contractor may not remove or replace any approved subcontractor without first notifying the Owner and Architect and providing the name and qualifications of the replacement.

C. Items below apply to and become a part of terms and conditions of any subsequent contract unless superseded by any attached terms and supplemental conditions or specifications in which case attached condition will prevail. Any exceptions must be in writing. Successful offeror must comply with the following federal or state laws.

1. Texas Labor Code; Title 2, Subtitle A, Chapter 21: Employment Discrimination.

2. Occupational Safety and Health Administration (OSHA). Current OSHA regulations are recognized as the law in Texas.

END OF SECTION 00605 – CONTRACTUAL COMPLIANCE REQUIREMENTS

SECTION 00610

WAGE RATES

A. De Witt County requires that all contractors comply with all federal, state, and local laws including Government Code, Title 10, Subtitle F, Chapter 2258 which requires that the contractor pay not less than the Prevailing Wage Scale. This does not prohibit the payment to a worker for an amount greater than the general prevailing wage rate.

B. Contractors shall comply with all aspects of Government Code, Title 10, Subtitle F, Chapter 2258 including keeping records on the name and occupation of each worker employed by the contractor or any subcontractor and the actual wages paid to each worker for each calendar day or portion thereof.

C. The Federal minimum wage rate is adopted by Texas by reference; any changes affecting the federal minimum wage will automatically be in effect for the Texas minimum wage for all intended purposes.

END OF SECTION 00610 - WAGE RATES

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 00700
WEATHER TABLE

1.1 GENERAL

A. A weather table reflecting information furnished by National Oceanic and Atmospheric Administration, Fort Worth, Texas is given on the following page and will be used to determine contract time extensions due to abnormally severe weather.

1.2 INFORMATION AND DATA:

A. Information and data furnished or referred to in the weather table is furnished for the General Contractor's (GC) information.

1.3 CONTRACT TIME LIMITS:

A. The contract time limits include normal weather conditions that are shown in the table listed herein.

1.4 TIME EXTENSIONS:

A. Time extension for weather will be granted only for weather conditions that are excessive or greater than the normal conditions that are indicated in the weather tables.

B. Any request for contract time extensions due to weather delay must be accompanied by weather data from the National Weather Services which establishes that the weather conditions during the period for which the claim was made were in excess of these established in the weather table. It must also include job logs that indicate impacted work and estimated affect of the weather.

WEATHER TABLE

Climate Normals for Cuero, Texas

Month	MAX TEMP (°F)	MIN TEMP (°F)	AVG TEMP (°F)	PRECIP (IN)	SNOW (IN)
Jan	66.3	42.0	54.1	2.33	0.0
Feb	68.9	45.5	57.2	1.54	0.0
Mar	75.2	52.3	63.8	2.76	0.0
Apr	82.1	58.7	70.4	2.77	0.0
May	88.6	67.4	78.0	4.41	0.0
Jun	94.1	72.7	83.4	3.92	0.0
Jul	96.9	74.3	85.6	2.44	0.0
Aug	98.3	74.1	86.2	2.59	0.0
Sep	92.9	69.3	81.1	3.57	0.0
Oct	85.9	59.8	72.8	3.27	0.0
Nov	75.3	50.0	62.7	2.35	0.0
Dec	67.4	43.5	55.4	2.27	0.2

(1) Mean number of days: rainfall 0.01" or more.
(2) Average normal precipitation, in inches.
(3) Mean amount, in inches.

Information in table is based on records compiled by the National Oceanic and Atmospheric Administration.
Website: https://www.ncei.noaa.gov/access/us-climate-normals/

END OF SECTION 00700 - WEATHER TABLE

SECTION 01010
SUMMARY OF WORK

PART 1- GENERAL

1.1 SCOPE:

A. The work included in this project is for the furnishing of all labor, materials, services, equipment and appliances required in conjunction with or properly incidental to the Bates Sheppard House Exterior Repair and Restoration in Cuero, Texas as indicated on the drawings and as specified in the specifications prepared by Komatsu Architecture, Inc., 3880 Hulen Street, Suite 300, Fort Worth, Texas 76107.

B. Section includes, but is not limited to:
   1. Project synopsis.
   2. Hazardous materials.
   3. Examination and Discovery

1.2 SCOPE SYNOPSIS

A. Consistent with the provisions of the Contractor contract provisions, General Conditions and the requirements of the balance of the contract documents, the descriptive synopsis of the work included in this Section is provided.

B. This descriptive synopsis is included only to present the contract document package in an abbreviated form in order to provide prospective bidders a quick overview of the project's major requirements.

C. This synopsis is not intended to, nor does it in any way limit, modify or otherwise change any of the requirements of the contract documents.

D. The project consists of limited demolition work, repair and restoration work to the exterior and the interior of the existing, historic Bates-Sheppard House.

Division 1: General Conditions and Testing

1) Hazardous Materials Testing
   a) Testing should be conducted for lead-based paint. Removal of lead-based paint should be done following all applicable OSHA and state health standards.
2) Wood Species Typing
   a) Contractor to match replacement wood components in kind. Provide sample to wood testing lab to verify species. Provide results to Architect and coordinate replacement wood.

Division 2: Sitework & Demolition

1.) Vegetation - All existing vegetation is to remain. Contractor to protect during construction procedures.
2.) Intrusive Fibrous Siding at the east and north elevations will be removed. It is noted by the solid red hatch on drawings.
3.) Intrusive Windows at the east elevation will be removed as indicated on the drawings.

Division 3: Concrete – not in scope

Division 4: Masonry – not in scope

Division 5: Metals – not in scope

Division 6: Wood

1. Wood Siding – Existing, original wood siding to be repaired, restored, and refinished. Contractor to remove all existing paint and coatings down bare wood using gentlest means possible including non-abrasive chemical or heat method. Sand blasting or other types of blasting is not allowed. Inspect all exterior walls for damaged or rotted wood siding members. Remove and replace all siding members 50% or more damaged. Replacement wood species to match existing. Repair / patch remaining siding as specified. Reattached sagging siding with non-corrosive fasteners. Prime and paint all siding. Color to match existing. Countersink existing rusted fastener heads. Putty, prime, and paint.
2. Hardie board Siding – Replace portion of non-original siding with hardie board as indicated on drawings.
3. Wood Porch Stairs, Decking, and Railing – Repair and restore all existing wood members. Remove severely deteriorated components and replace in kind.
4. Rough Carpentry – Contractor to allow Architect and Owner to inspect wood framing members when revealed. Repair or replacement of structural framing members may be required based on findings.

Division 7: Thermal and Moisture Protection

1. Existing roof and drainage system were recently replaced. All elements to remain. Contractor to protect during construction procedures.

Division 8: Doors and Windows

1. Exterior Wood Doors – The south and north exterior doors are to be repaired, restored, and refinished.
2. Wood Windows – The window restoration program will remove existing paint and glazing putty down to bare wood. All sash and framing wood in good condition will be restored. Holes will be patched Abatron WoodEpox or approved equal. Any severely deteriorated wood members will be replaced in part or in whole to match the existing. Existing, intact glass will be reused. The glazing putty will be replaced with Sarco Multi-Glaze Type M or approved equal. All wood components will be primed, painted, and reinstalled to operable condition. Existing hardware will be reconditioned and reused. Any missing hardware will be replaced in kind. New bronze weatherstripping will be added to all windows. The existing wood screens will be repaired and restored. Where missing, they will be reconstructed.

3. The window restoration program includes 4 interior windows that once looked out from the east facing porch.

Division 9: Finishes

1. Exterior painting – All restored and repaired exterior wood components and modified interior components to be primed and painted.

Division 10: Specialties

1. Contractor to provide TAS-compliant prefabricated metal ramp for rear entrance.
2. Contractor to provide crawl space infill / critter prevention screen system at all crawl space openings.

Division 11: Equipment - not in scope

Division 12: Furnishings – not in scope

Division 13: Special Construction - not in scope

Division 14: Conveying Systems – not in scope

Division 15: Mechanical – All existing equipment, piping, and conduit to remain. Contract to protect during construction procedures.

Division 16: Electrical – All existing equipment, piping, and conduit to remain. Contract to protect during construction procedures.

Division 17: Other Issues

1. Accessibility: The County must adhere to the provisions of ADA and TAS.
The north entry should fully comply with all TAS requirements.

1.3 HAZARDOUS MATERIAL ABATEMENT WORK GENERAL CONSISTS OF:

A. Selective demolition and hazardous materials abatement, if necessary, in areas to be determined.
   1. Abatement includes removal of asbestos-containing materials by TDH licensed asbestos contractor.
   2. Abatement includes removal of lead-based paint by licensed contractor.
   3. Contractor shall comply with regulatory requirements to provide employee monitoring for exposure assessment, waste characterization by Toxicity Characteristic Leaching Procedure (TCLP) analysis, and transportation and disposal of waste as required by its waste characterization.

1.4 EXAMINATION AND DISCOVERY

A. A scheduled time period will be allotted for the examination of the existing buildings interior upon completion of the limited demolition specified in “01730 – Examination and Discovery”

B. The Architect and Owner will conduct a final survey of the listed items to determine the final design of elements not able to be previously viewed prior to demolition.

C. The Architect will submit a final report, including any design changes deemed necessary due to discovery of unknown conditions during the Examination and Discovery period.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION 01010 - SUMMARY OF WORK

SECTION 01027
PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Provisions established within General and Supplementary Conditions of the Contract, Division 1 - General Requirements, and the Drawings are collectively applicable to this Section.

1.2 SECTION INCLUDES

A. Procedures for preparation and submittal of Applications for Payment.

1.3 SCHEDULE OF VALUES

A. Format and Content
1. AIA G703 Continuation Sheet of Application and Certificate for Payment, Construction Manager's standard electronic media printout will be considered, or Owner approved substitute form containing same information.
2. Use Table of Contents of Project Manual as basis of format for listing costs of Work.
3. List installed value of components parts of Work in sufficient detail to serve as basis for computing values for progress payments.
    a. List separately:
        1) General Conditions
        2) Bonds and Insurance
        3) Site mobilization costs,
4. For items on which payment will be requested for stored materials, break down value into:
    a. Cost of materials, delivered and unloaded.
    b. Total installed values.
5. For each line item that has a value in excess of $25,000, break down the costs to list major products or operations under each item.
6. List each Alternate selected as a separate line item.
7. Total of costs listed in Schedule shall equal the Contract Sum.

B. Review Procedures
1. After initial review by Architect, revise and resubmit if required.
2. Revise next Application for Payment when a Change Order is issued. List each Change Order as a new line item.

C. Record Drawings
1. Provide a half size copy of all record drawings and specification sheets updated from the previous month. The current sheets must be up to date with field changes in order for the payment application to be processed.

1.4 PREPARATION OF APPLICATIONS

A. Type required information or use media-driven printout:
1. AIA Document G702 - Application and Certificate for Payment, supported by AIA Document G703 - Continuation Sheet. The Contractor's standard electronic format will be considered for use; Contractor to submit same prior to Pre-Construction Conference. The form will be reviewed at the Pre-construction Conference.
2. Execute certification by signature of an individual authorized to sign legal documents on behalf of the Contractor.
3. Use data on accepted Schedule of Values. Provide dollar value in each column for each line item for portion of Work performed and for stored products.
4. List each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount as for an original item of Work.
5. Prepare Application for Final Payment as specified in Section 01700.

1.5 SUBMITTAL PROCEDURES

A. Draft Payment Applications
1. Submit the draft monthly application for payment, including any required sub contractor pay applications and paid receipts, to the Architect *
   a. Prior to the monthly Owner's progress meeting;
   b. By the 25th of the month;
   c. At the Owner's progress meeting.
2. Jointly review the draft application on site with the Architect (architect's representative), Owner's Representative and a Representative of the Contractor.
3. Make corrections, if necessary, and submit required number of notarized copies of the corrected Final Payment Applications to the Architect at least five (5) days prior to the first Commissioner's Court of each month (2nd Monday of each month) for approval at Commissioner's Court.
4. Incomplete or incorrectly executed payment applications will be returned without action and will need to be resubmitted the following month.

B. Waivers of Mechanics Lien
1. With each application for payment, submit waivers of mechanics liens from all major subcontractors and suppliers for construction period covered by previous application.
2. Submit partial waivers on each item for amount requested, prior to deduction for retainage, on each item.

C. Provide paid receipts:
1. For material or equipment being billed for, and
2. For material or equipment in storage.

D. Submit under transmittal letter specified in Section 01300 - Required Submittals.

E. Payment Period: Submit on a monthly basis.

F. Submit waivers and release of liens with each application for payment.

H. Record Drawings: Provide a half size copy of all record drawings and specification sheets updated from the previous month. The current sheets must be up to date with field changes in order for the payment application to be processed.

1.6 SUBSTANTIATING DATA

A. When substantiating information is required, submit data justifying line item amounts in question. On allowance items, submit actual invoice from supplier of product or service.

B. Provide one copy of data with cover letter for each copy of submittal. Show Application number and date, and line item by number and description.

C. Subcontractors are to submit applications of AIA G702 and G703 forms, or Owner approved substitute form containing same information.

1.7 RECORD DOCUMENTS

A. Owner's approval of an application for payment may be contingent upon the Contractor keeping the record set of documents up-to-date. Make current record documents available for Owner's review at each site visit.

1.8 INITIAL APPLICATION FOR PAYMENT

A. Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of Contractor’s staff , their positions and contact information
2. List of Contractor’s principal consultants and contact information
3. List of subcontractors including contact information
4. List of principal suppliers and fabricators
5. Schedule of major products
6. Schedule of Values
7. Construction Progress Schedule (preliminary if not final)
8. Approved Submittal Log
9. Copy of building permit (if required)
10. Certificates of insurance and insurance policies
11. Copies of any other permits or authorizations from governing authorities for the performance of the Work. (if required)
12. Other items required by Owner or Architect.

1.9 FINAL APPLICATION FOR PAYMENT

A. Required administrative actions and submittals which precede or coincide with submittal of final payment request.

1. Completion of Project Closeout requirements
2. Completion of items specified for completion after Substantial Completion
3. Assurance that any unsettled claims will be settled.
4. Assurance that Work not completed and accepted will be completed without undue delay.
5. Final Cleaning.
6. Removal of temporary facilities and services.
7. Removal of surplus materials, rubbish and similar elements.
8. Consent of Surety to Final Payment.
9. Final Release of Liens.
10. All addition al requirements in Section 01700, Project Closeout.
11. Any additional requirements as might be listed in any of the Contract Documents.
12. Other items as may be required by Owner or Architect.

PART 2 - PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION 01027 – PAYMENT PROCEDURES

SECTION 01035
MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Provisions established within General and Supplementary Conditions of the Contract, Division 1 - General Requirements, and the Drawings are collectively applicable to this Section.

B. Related Sections:
1. Division 1 Section 01027 “Payment Procedures”
2. Division 1 Section 01300 “Submittal Procedures”
3. Division 1 Section 01301 “Systems Coordination”
4. Division 1 Section 01605 “Products and Substitutions”

1.2 SECTION INCLUDES

A. This Section specifies administrative and procedural requirements for handling and processing contract modifications.

1.3 MINOR CHANGES IN THE WORK

A. The Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or Contract Time, on AIA Form G710, Architect’s Supplemental Instructions or by utilizing an equivalent form.

1.4 CHANGE ORDER PROPOSAL REQUESTS

A. Owner-Initiated Proposal requests: The Architect will issue a detailed description of proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
1. Proposal requests issued by the Architect are for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.
2. Within 14 days of receipt of a proposal request, submit an estimate of cost necessary to execute the change to the Architect for the Owner’s review.
    a. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
    b. Indicate applicable delivery charges, equipment rental, and amounts of trade discounts.
    c. Include a statement indicating the effect the proposed change in the Work will have on the contract time.

B. Contractor-Initiated Proposals: When latent or unforeseen conditions require modifications to the Contract, the Contractor my propose changes by submitting a request for a change to the Architect.
1. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
2. Include a list of quantities of products required and unit costs, with the total amount of

purchases to be made. Where requested, furnish survey data to substantiate quantities.

3. Indicate Applicable delivery charges, equipment rental, and amounts of trade discounts.
4. Comply with requirements in Section "Products and Substitutions" if the proposed change requires substitution of one product or system for a product or system specified.

C. Proposal Request Form: Use AIA Document G709 for Change Order Proposal Requests or Architect approved Change Order Proposal Request form.

1.5 CHANGE CONSTRUCTION DIRECTIVE

A. Construction Change Directive: When the Owner and the Contractor disagree on the terms of a Proposal Request, the Architect may issue a Construction Change Directive on AIA Form G714. The Construction Change Directive instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. The Construction Change Directive contains a complete description of the change in the Work. It also designates the method to be followed to determine change in the Contract Sum or Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

1.6 CHANGE ORDER PROCEDURES

A. Upon the Owner's approval of a Proposal Request, the Architect will issue a Change Order for signatures of the Owner and the Contractor on AIA Form G701.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION 01035 – MODIFICATION PROCEDURES

SECTION 01040
COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Provisions established within General and Supplementary Conditions of the Contract, Division 1 - General Requirements, and the Drawings are collectively applicable to this Section.

B. Related Sections:
   1. Division 1 Section 01300 “Required Submittals”
   2. Division 1 Section 01600 “Materials and Equipment”
   3. Division 1 Section 01700 “Project Closeout”

1.2 SECTION INCLUDES

A. This Section specifies administrative and supervisory requirements necessary for coordinating construction operations including, but not necessary limited to, the following:
   1. General project coordination procedures.
   2. Coordination Drawings.
   3. Administrative and supervisory personnel.
   4. Cleaning and protection.

1.3 COORDINATION

A. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.
   1. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
   2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
   3. Make provisions to accommodate items scheduled for later installation.

B. Where necessary, prepare memoranda for distribution to each party involved, outline special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
   1. Prepare similar memoranda for the Owner and separate contractors where coordination of their work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
   1. Preparation of schedules.
   2. Installation and removal of temporary facilities.

3. Delivery and processing of submittals.
4. Project closeout activities.

1.4 SUBMITTALS

A. Coordination Drawings:
   1. Prepare coordination drawings where careful coordination is needed for installation of products and materials fabricated by separate entities. Prepare coordination drawings where limited space availability necessitates maximum utilization of space for efficient installation of different components.
      a. Show the relationship of components shown on separate Shop Drawings.
      b. Indicate required installation sequences.
      c. Comply with requirements contained in Section 01300 “Required Submittals” and 01301 “Systems Coordination”.

B. Staff Names:
   1. Prior to the commencement of construction operations, submit a list of the Contractor’s principal staff assignments, including the superintendent and other personnel in attendance at the Project Site. Identify individuals and their duties and responsibilities. List their addresses and telephone numbers. Provide emergency contact information for anyone that will be present at any time during the project.

PART 2 - PRODUCTS (Not Applicable)

PART 3 –EXECUTION

3.1 GENERAL COORDINATION PROVISIONS

A. Inspection Conditions:
   1. Require Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
   2. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

3.2 CLEANING AND PROTECTION

A. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration at time of Substantial Completion.
B. Clean and provide maintenance of completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to assure operability without damaging effects.
C. Limiting Exposures:
   1. Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable exposures include, but are not limited to, the following:
      a. Excessive static or dynamic loading.

b. Excessive internal or external pressures.
c. Thermal shock.
d. Excessively high or low humidity.
e. Air contamination or pollution.
f. Water or ice.
g. Solvents.
h. Chemicals.
i. Light.
j. Radiation.
k. Puncture.
l. Abrasion.
m. Heavy traffic.
n. Soiling, staining, and corrosion.
o. Bacteria.
p. Rodent and insect infestation.
q. Combustion.
r. Electrical current.
s. High-speed operation.
t. Improper lubrication.
u. Unusual wear or other misuse.
v. Contact between incompatible materials.
w. Destructive testing.
x. Misalignment.
y. Excessive weathering.
z. Unprotected storage.
aa. Improper shipping or handling.
bb. Theft.
cc. Vandalism.

END OF SECTION 01040 – COORDINATION

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 01045
CUTTING AND PATCHING

PART 1 - GENERAL

1.1 DESCRIPTION OF REQUIREMENTS:

A. Definition: “Cutting and patching” is hereby defined to include, but not necessarily limited to, the cutting and patching of existing work in order to accommodate the coordination of work, or the installation of new work. Patching is also defined as the repair or filling of surfaces where existing items are removed. Contractor/sub-contractor shall coordinate the patching of surfaces and finishes in areas where existing items are removed. Drilling the work to install fasteners and similar operations are excluded from the definition of cutting and patching.

B. Refer to Architectural drawings for specific cutting and patching requirements and restrictions applicable to individual units of work.

C. Coordinate with sections 023100 Examination and Discovery and 024119 Selective Demolition.

1.2 QUALITY ASSURANCE:

A. Requirements for Structural Work: Do not cut and patch structural work in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide materials for cutting and patching which will result in equal or better work than the work being cut and patched, in terms of performance characteristics, and including visual effect where applicable. Comply with the requirements; use materials comparable with the original materials, where feasible, and where recognized that satisfactory results can be produced thereby.

PART 3 – EXECUTION

3.1 PREPARATION:

A. Temporary Support: To prevent failure, provide adequate temporary support for work to be cut. Do not endanger other work.

B. Protection: Provide adequate protection of other work during cutting and patching to prevent damage; provide protection of the work from adverse weather exposure.

3.2 CUTTING AND PATCHING:

A. General: Employ skilled tradesmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, in each instance, and perform the work promptly.

B. Cut work by methods least likely to damage work to be retained and work adjoining.
   1. In general, where physical cutting action is required, cut work with sawing and grinding tools, not with hammering and chopping tools. Core drill openings through concrete work.
   2. Refer to Specification Sections for masonry restoration regarding the use of hand tools in lieu of powered tools for the cutting out of masonry joints prior to repointing operations.

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

D. Restore exposed finishes to patched areas and, where necessary, extend finish restoration onto retained work adjoining, in a manner which will eliminate evidence of patching.

END OF SECTION 01045 – CUTTING AND PATCHING

SECTION 01095
REFERENCE STANDARDS AND DEFINITIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Provisions established within General and Supplementary Conditions of the Contract, Division 1 - General Requirements, and the Drawings are collectively applicable to this Section.

1.2 DEFINITIONS

A. Basic Contract definitions are included in the Conditions of the Contract.

B. Indicated: The term indicated refers to graphic representations, notes, or schedules on the Drawings, or other paragraphs or Schedules in the Specifications, and similar requirements in the Contract Documents. Terms such as shown, noted, scheduled, and specified are used to help the reader locate the reference. Location is not limited.

C. Directed: Terms such as directed, requested, authorized, selected, approved, required, and permitted mean directed by the Architect, requested by the Architect, and similar phrases.

D. Regulations: The term regulations includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.

E. Furnish: The term “furnish” means supply and deliver to the Project Site, ready for unloading, unpacking, assembly, installation, and similar operations.

F. Install: The term “install” describes operations at the Project Site including the actual unloading, unpacking, assembly, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

G. Provide: The term “provide” means to furnish and install, complete and ready for the intended use.

H. Installer: An installer is the Contractor or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to perform a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
   1. Experienced: This term, when used with the term Installer, means having a minimum of 10 years successful experience in projects similar in size and scope to this Project, being familiar with the special requirements indicated, and having complied with requirements of the authority having jurisdiction.
   2. Trades: Using terms such as carpentry does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as carpenter. It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

3. Assigning Specialists: Certain Sections of the Specifications require that specific construction activities shall be performed by specialists who are recognized experts in those operations. The specialists must be engaged for those activities, and their assignments are requirements over which the Contractor has no option. However the ultimate responsibility for fulfilling Contract requirements remains with the Contractor.
    a. This requirement shall not be interpreted to conflict with enforcing building codes and similar regulations governing the Work. It is also not intended to interfere with local trade union jurisdiction settlements and similar conventions.

I. Project Site: This term is the space available to the Contractor for performing construction activities, either exclusively or in conjunction, with others performing other work as part of the Project. The extent of the Project Site is shown on the Drawings.

J. Testing Agencies: A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

1.3 SPECIFICATION FORMAT AND CONTENT EXPLANATION

A. Specification Format: These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 16-Division format and MASTERFORMAT numbering system.

B. Specification Content: This Specification uses certain conventions regarding the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
1. Abbreviated Language: Language used in Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated as the sense requires. Singular words will be interpreted as plural and plural words as singular where applicable as the context of the Contract Documents indicates.
2. Imperative and Streamlined Language: Language is used generally in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Test, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor, or by others when so noted.
    a. The words "shall be" are implied wherever a colon (:) is used within a sentence or phrase.

1.4 INDUSTRY STANDARDS

A. Applicability of Standards: Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with the standards in effect as of the date of the Contract Documents.

C. Conflicting Requirements: Where compliance with 2 or more standards is specified and where the standards may establish different or conflicting requirements for minimum quantities or quality levels, refer requirements that are different but apparently equal and uncertainties to the Architect for a decision before proceeding.

1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the Architect for a decision before proceeding.

D. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source.

E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations, as referenced in the Contract Documents, are defined to mean the associated names. Names and addresses are subject to change and are believed, but no assured, to be accurate and up-to-date as of date of the Contract Documents.

ACI	American Concrete Institute P. O. Box 19150 Detroit, MI 48219	(313) 532-2600
AFPA	American Forest and Paper Association (American Wood Council of the) 1111 19th Street, NW, Suite 800 Washington, DC 20036	(202) 463-2700
AHA	American Hardboard Association 1210 West Northwest Highway Palatine, IL 60067	(708) 934-8800
AIA	The American Institute of Architects 1735 New York Avenue, NW Washington, DC 20006	(202) 626-7300
AISC	American Institute of Steel Construction One East Wacker Drive Suite 3100 Chicago, IL 60601-2001	(312) 670-2400
AISI	American Iron and Steel Institute 1101 17th Street NW Washington, DC 20036-4700	(202) 452-7100
ALI	Associated Laboratories, Inc.	

	500 South Vermont Street Palatine, IL 60067	(708) 358-7400
ALSC	American Lumber Standards Committee P. O. Box 210 Germantown, MD 20875	(301) 972-1700
ANSI	American National Standards Institute 11 West 42nd Street 13th Floor New York, NY 10036	(212) 642-4900
APA	American Plywood Association P. O. Box 11700 Tacoma, WA 98411	(206) 565-6600
ASHRAE	American Society of Heating, Refrigerating & Air Conditioning Engineers 1791 Tullie Circle, NE Atlanta, GA 30329	(404) 636-8400
ASME	American Society of Mechanical Engineers 345 East 47th Street New York, NY 10017	(212) 705-7722
ASTM	American Society for Testing and Materials 1916 Race Street Philadelphia, PA 19103-1187	(215) 299-5400
AWPA	American Wood Preservers' Association P. O. Box 286 Woodstock, MD 21163-0286	(410) 465-3169
AWS	American Welding Society 550 LeJeune Road, NW P. O. Box 351040 Miami, FL 33135	(305) 443-9353
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235	(303) 794-7711
BHMA	Builders' Hardware Manufacturers Association 355 Lexington Avenue 17th Floor New York, NY 10017	(212) 661-4261
BIA	Brick Institute of America 11490 Commerce Park Drive Reston, VA 22091	(703) 620-0010

CRSI	Concrete Reinforcing Steel Institute 933 Plum Grove Road Schaumburg, IL 60173	 (708) 517-1200
CTI	Ceramic Tile Institute of America 38720 Roadside Drive Suite 300 Agora Hills, CA 91301-3321	 (213) 660-1911 (818) 889-8453
DHI	Door and Hardware Institute 14170 Newbrook Drive Chantilly, VA 22021-2223	 (703) 222-2010
FM	Factory Mutual Research Organization 1151 Boston-Providence Turnpike P. O. Box 9102 Norwood, MA 02062	 (617) 762-4300
NECA	National Electrical Contractors Association 3 Bethesda Metro center, Suite 1100 Bethesda, MD 20814	 (301) 657-2652
NEMA	National Electrical Manufacturers Association 2010 L Street NW Suite 300 Washington, DC 20037	 (301) 657-8400
NFPA	National Fire Protection Association One Batterymarch Park P. O. Box 9101 Quincy, MA 02269-9101	 (617) 770-3000 (800) 344-3555
PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077	 (708) 966-6200
SBCCI	Southern Building Code Congress International, Inc. 900 Montclair Road Birmingham, Alabama 35213	 (205) 591-1853
SMACNA	Sheet Metal and Air Conditioning Contractors National Association 4201 Lafayette Center Drive Chantilly, VA 22021	 (703) 803-2980
SPIB	Southern Pine Inspection Bureau 4709 Scenic Highway Pensacola, FL 32504	 (904) 434-2611
SSPC	Steel Structures Painting Council	

	4400 Fifth Avenue Pittsburgh, PA 15213-2683	(412) 268-3327
TAS	Texas Accessibility Standards Administered by the Texas Department Of Licensing and Regulations Architectural Barriers Section P.O. Box 12157 Austin, Texas 78711	(877) 278-0999 (512) 463-3211
TCA	Tile Council of America P. O. Box 326 Princeton, NJ 08542-0326	(609) 921-7050
UL	Underwriters Laboratories 333 Pfingsten Road Northbrook, IL 60062	(708) 272-8800
WWPA	Western Wood Products Association Yeon Building 522 SW 5th Avenue Portland, OR 97204-2122	(503) 224-3930

F. Federal Government Agencies: Names and titles of federal government standard- or Specification- producing agencies are often abbreviated. The following acronyms or abbreviations referenced in the Contract Documents indicate names of standard – or Specification–producing agencies of the federal government. Names and addresses are subject to change and are believed, but are not assured, to be accurate and up-to-date as of the date of the Contract Documents.

EPA	Environmental Protection Agency 401 M Street SW Washington, DC 20460	(202) 382-2090
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor) 200 Constitution Ave NW Washington, DC 20210	(202) 219-6091

1.5 SUBMITTALS

A. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspections, reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established in conjunction with compliance with standards and regulations bearing upon performance of the Work.

PART 2 - PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION 01095 – REFERENCE STANDARDS AND DEFINITIONS

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 01120
RECONSTRUCTION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES:

A. Products and installation for patching and extending Work to existing structure.

B. Transition and adjustments to existing structure.

C. Repair of damaged surfaces, finishes, and cleaning of existing.

1.2 RELATED SECTIONS:

A. Section 01045 - Cutting and patching.

PART 2 - PRODUCTS

2.1 PRODUCTS FOR PATCHING AND EXTENDING WORK

A. New Materials: As specified in product sections; match existing Products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing Products where necessary, referring to existing Work as a standard.

PART 3 – EXECUTION

3.1 EXAMINATION:

A. Verify that demolition is complete and areas are ready for installation of new Work.

B. Beginning of restoration Work means acceptance of existing conditions.

3.2 PREPARATION:

A. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.
   1. The foregoing means that the Contractor/sub-contractor shall be responsible for removing any construction, assemblies, etc. that is in the way of executing the work as prescribed on the drawings unless some other disposition of those elements has been prescribed in the drawings.
   2. Any items removed per the above shall then be reinstalled, reattached, or otherwise

restored to their original position and condition as encountered prior to the initiation and execution of the prescribed work.

B. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

C. Remove debris and abandoned items from area and from concealed spaces.

D. Prepare surface and remove surface finishes to provide for proper installation of new work and finishes.

E. Close openings in exterior surfaces to protect existing work and salvage items from weather and extremes of temperature and humidity.

3.3 INSTALLATION

A. Coordinate work of alterations and renovations to expedite completion and to accommodate Owner occupancy.

B. Remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring Products and finishes to original condition.

C. Refinish visible existing surfaces to remain to specified condition for each material, with a neat transition to adjacent finishes.

D. In addition to specified installation of equipment and fixtures restore existing plumbing, heating, ventilation, and electrical, systems to full operational condition.

E. Install Products as specified in individual sections.

3.4 TRANSITIONS

A. Where new Work abuts or aligns with existing, perform a smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.

B. When finished surfaces are cut so that a smooth transition with new Work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect/Engineer.

3.5 REPAIR OF DAMAGED SURFACES

A. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.

B. Repair substrate prior to patching finish.

3.6 FINISHES

A. Finish surfaces as specified in individual Product sections.

B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

3.7 CLEANING

A. In addition to cleaning specified in Section 01710 clean repaired areas of work.

END OF SECTION 01120 – RECONSTRUCTION PROJECT PROCEDURES

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 01205
QUALITY CONTROL

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Definitions: Specific quality control requirements for the work are indicated throughout the contract documents. In particular, quality control provisions for manufactured products are specified in individual work sections and are not repeated herein. The requirements of this section are primarily related to performance of the work beyond furnishing of manufactured products. The term "Quality Control" includes, but is not necessarily limited to, inspection, testing, and associated requirements.

1.2 LIMITATIONS FOR USE OF SITE

A. General: In addition to site utilization limitations and requirements, coordinate with Owner to administer allocation of available space equitably among entities needing access and space, so as to produce best overall efficiency in performance of total work of project. Schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on site. Coordinate with the City regarding usage of streets surrounding and adjacent to the project site.

B. Waste Materials: Dispose of organic and hazardous materials off the site on a daily basis. All waste disposals shall be performed in a lawful manner.

C. Contractor/sub-contractor shall confine his operations at the site to areas designated by the Owner's Representative. Contractor/sub-contractor shall coordinate with Owner regarding use of site/Courthouse square with other entities on temporary as-needed basis during the duration of the Project.

D. Contractor/sub-contractor shall conduct his construction and clean-up operations in such a manner as to prevent the dissemination of wind-blown materials and debris to other portions of the site.

1.3 TRADESPERSONS AND WORKMANSHIP STANDARDS

A. General: Instigate and maintain procedures to ensure that persons performing work at site are skilled, and knowledgeable in methods and craftsmanship needed to produce required quality levels for workmanship in completed work. Remove and replace work which does not comply with workmanship standards as specified and as recognized in the construction industry for applications required. Remove and replace other work damaged or deteriorated by faulty workmanship or its replacement.

1.4 INSPECTIONS, TESTS AND REPORTS

A. General: No failure of test agencies to perform results shall relieve contractor/sub-contractor of responsibility for fulfillment of requirements of contract documents. Required inspection and testing services are intended to assist in determination of probable compliance of work with requirements, but do not relieve contractor/sub-contractor of responsibility for compliance, or for general fulfillment of requirements of contract documents. Specified inspections and tests are not intended to limit contractor/sub-contractor's quality control program. Afford reasonable access to

agencies performing tests and inspections. All costs for testing services required during the course of construction shall be paid by the Owner. The selection of testing agency or agencies shall be by the Owner. The contractor/sub-contractor shall be responsible for coordinating the testing procedures with the work as it progresses. Refer to Section 01605 - Products and Substitutions for requirements concerning asbestos.

B. Qualification of Testing Agencies: Independent testing laboratories specializing in required services shall comply with "Recommended Requirements for Independent Laboratory Qualification" by ACIL.

PART 2 - PRODUCTS (Not Applicable)

PART 3 –EXECUTION

3.1 COORDINATION OF TEST AGENCY WORK

A. Coordination: Afford access and reasonable time in construction sequence for inspections and tests to be performed. Cooperate with agencies and provide incidental labor and services needed for the removal and delivery of test samples, for inspections, and taking measurements.

B. Test Agency Responsibilities: Test agencies are not authorized to change or negotiate requirements of contract documents. Each agency shall coordinate its assigned work with construction schedule as maintained by contractor/sub-contractor, and shall perform its work promptly so as not to delay the work.
   1. Report: The testing agency shall prepare reports of inspections and laboratory tests, including analysis and interpretation of test results, where applicable. Testing agency shall submit one copy of all tests and inspection reports to the contractor/sub-contractor, two copies to the Architect, and one copy to the Owner. Reports shall be submitted to all parties concerned immediately upon completion of the inspection or test.

3.2 GENERAL INSTALLATION PROVISIONS

A. Installer's Inspection of Conditions: Require installer of each major unit of work to inspect substrate to receive work, and conditions under which work will be performed, and to report to the Contractor/sub-contractor, in writing, unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to installer.

B. Manufacturer's Instructions: Where installations include manufactured products, comply with manufacturer's applicable instructions and recommendations for installation, to extent these are more explicit or more stringent than requirements in contract documents.

C. Inspect each item of material or equipment immediately prior to installation, and reject damaged and defective items.

D. Provide attachment and connection devices and methods for securing work properly as it is installed, true to line and level, and within recognized industry tolerances. Allow for expansion and building movement. Provide uniform joint widths in exposed work, organized for best possible visual effect. Refer questionable visual effect choices to Architect for final decision.

E. Recheck measurements and dimensions of the work, as an integral step of starting each installation.

F. Install work during conditions of temperature, humidity, exposure, forecast weather, and status of project completion which will ensure best possible results for each unit of work, in coordination with entire work. Isolate each unit of work from non-compatible work, as required to prevent deterioration.

G. Coordinate enclosure (closing-in) of work with required inspections and tests, so as to minimize necessity of uncovering work for that purpose.

H. Mounting Heights: Where mounting heights are not indicated, mount individual units of work at industry-recognized standard mounting heights for applications required. Refer questionable mounting height choices to Architect/Engineer for final decision.

I. All requirements for installations of all fixtures, components and assemblies shall conform to the requirements of the Texas Accessibility Standards (TAS) as promulgated by the Texas Department of Licensing and Regulation (TDLR). The Contractor/sub-contractor shall be responsible for ensuring that the correction location and installation of fixtures, components and assemblies fully conforms to these requirements where pertinent and addressed by the Standards.

3.3 CLEANING AND PROTECTION

A. General: During handling and installation of work at project site, clean and protect work in progress, and adjoining work, on a basis of perpetual maintenance. Apply suitable protective covering on newly installed work where reasonably required to ensure freedom from damage or deterioration at time of substantial completion; otherwise, clean and perform maintenance on newly installed work as frequently as necessary through remainder of construction period. Adjust and lubricate operable components to ensure operational ability without damaging effects.

B. Limiting Exposures of Work: To extent possible through reasonable control and protection methods, supervise performance of work in a manner and by means which will ensure that none of the work, whether completed or in progress, will be subjected to harmful, dangerous, damaging, or otherwise deleterious exposures during construction period. Where applicable, such exposures include, but are not necessarily limited to, static loading, dynamic loading, internal pressures, external pressures, high or low temperatures, thermal shock, high or low humidity, air contamination or pollution, water, ice, solvents, chemicals, light, radiation, puncture, abrasion, heavy traffic, soiling bacteria, insect infestation, combustion, electrical current, high speed operation, improper lubrication, unusual wear, misuse, incompatible interface, destructive testing, misalignment, excessive weathering, unprotected storage, improper shipping/handling, theft, and vandalism.

C. Protection of Structure: To the greatest extent possible, all materials shall be stored at ground level until such time as they are incorporated into the building construction.

D. Protection of Site: No personnel or vehicular traffic shall be allowed within the fenced areas under the drip lines of the trees. See the notes on the plans. The contractor/sub-contractor is hereby notified that no use of these areas is allowed. If due to mismanagement of the site by the contractor/sub-contractor and use of these areas occurs, the contractor/sub-contractor shall be completely liable for the safety and health of the trees on the site.

END OF SECTION 01205 – QUALITY CONTROL

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 01210
PRECONSTRUCTION CONFERENCE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Provisions established within General and Supplementary Conditions of the Contract, Division 1 - General Requirements, and the Drawings are collectively applicable to this Section.

1.2 SECTION INCLUDES

A. Contractor participation in preconstruction conferences.

1.3 PRECONSTRUCTION CONFERENCE

A. Architect will schedule a conference after award of the construction contract by the Owner; intent is to hold this meeting within 14 days after the Owner has awarded the construction contract to the selected proposer and approved the list of proposed, qualified subcontractors and issued the Notice to Proceed (NTP). Architect will chair and conduct the meeting.

B. Attendance: Owner, Architect, Contractor, and Major Subcontractors. The Owner and Architect may request the attendance of other major consultants.

C. Agenda
1. Submittal of executed insurance certificates.
2. Distribution of Contract Documents as required.
3. Submittal of list of subcontractors, list of products, Schedule of Values, and progress schedule. Distribution of said lists and schedules; distribution shall include Owner and Architect.
4. Designation of responsible personnel.
5. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal requests, change orders, and Contract closeout procedures.
6. Project Meetings.
7. Schedules/Scheduling.
8. Use of premises by Owner and Contractor.
9. Use of City streets by Contractor; required methods of protection for the public as prescribed by the City (i.e., flagmen, barricades, cones, etc.) and TxDOT where applicable.
10. Parking for Contractor’s personnel.
11. Owner's requirements.
12. Temporary facilities.
13. Security and housekeeping procedures.
14. Procedures for testing; procedures for payment of tasks services.
15. Procedures for maintaining record documents.
16. Requirements for startup of equipment.
17. Inspection and acceptance of equipment put into service during construction period.

PART 2 - PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION 01210 – PRECONSTRUCTION CONFERENCE

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 01220
PROGRESS MEETINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Provisions established within General and Supplementary Conditions of the Contract, Division 1 - General Requirements, and the Drawings are collectively applicable to this Section.

1.2 SECTION INCLUDES

A. Scheduling and administration of progress meetings.

B. Pre-installation conferences.

1.3 PROGRESS MEETINGS - OWNER/ARCHITECT

A. The contractors Project Manager will schedule and administer monthly construction progress meetings, throughout progress of Work. He will prepare agenda, and distribute notice of each meeting to participants. Participants shall include but not be limited to Site Superintendent, Owner, and Architect. The Owner and/or Architect may request the attendance of other major consultants.
   1. The Architect will attend only the scheduled monthly meeting(s); additional meetings required by the failure of the Contractor to be fully prepared for the monthly meeting requiring additional meeting(s) shall be billed separately to the Contractor.
   2. The additional meeting cost shall be billed at a fixed rate for travel and expenses per the schedule at the end of this Section. The costs for travel shall be adjusted as required by the transportation carrier costs adjustments.
   3. Additional Site Visits and Progress Meetings due to the failure of the Contractor to complete the work in the stipulated number of days per the Contract for Construction shall be billed to the Contractor similarly to item 3 above.

B. The contractors Site Superintendent shall make physical arrangements.

C. The contractors Project Manager will preside at meetings.

D. Location of Meetings: Contractor's field office or other appropriate, prior approved location.

E. Attendance: contractors Project Manager, Site Superintendent, subcontractors, and suppliers as appropriate to agenda. Owner, Architect, and professional consultants as appropriate.

F. Anticipated Agenda:
   1. Review of Work progress.
   2. Field observations, problems, and decisions.
   3. Identification of problems which impede planned progress.
   4. Review of submittals schedule and status of submittals.
   5. Review of off-site fabrication and delivery schedules.
   6. Maintenance of progress schedule.
   7. Corrective measures to regain projected schedules.
   8. Planned progress during succeeding work period.

9. Coordination of projected progress.
10. Maintenance of quality and work standards.
11. Effect of proposed changes on progress schedule and coordination.
12. Other business relating to Work.
13. Maintenance of record drawings.
14. Any Owner related issues.
15. Any Architect related issues.
16. Review of payment applications.

G. Meeting Minutes: Contractors Project Manager shall record all proceedings at the meetings. Said minutes shall be typed and distributed to the following parties within 7 days:
   1. Owner
   2. Architect

   The above mentioned parties are allotted 7 days to respond to the contractor with edits, additions or deletions to the contractor submitted Meeting Minutes.

H. Agenda: Contractors Project Manager shall transmit the anticipated agenda for each monthly meeting no less than three (3) days prior to the scheduled meeting.
   1. In addition to the anticipated agenda items listed on line F, contractor shall include all issues related to the project requiring input from the attendees including, current and anticipated project issues.
   2. Attendees receiving the transmitted agenda may add items prior to the meeting via email to the contractors Project Manager.

1.4 PRE-INSTALLATION CONFERENCES

A. When required in individual specification Section, convene a pre-installation conference at work site prior to commencing work of the Section.

B. Require attendance of entities directly affecting, or affected by, work of the Section.

C. Prepare agenda and preside at conference.

D. Review conditions of installation, preparation and installation procedures, and coordination with related work.

1.5 ADDITIONAL MEETING COST FOR ARCHITECT

A. Air Travel (if required): actual ticketed cost/person

B. Automobile rental (if required): actual cost/vehicle.

C. Komatsu Architecture automobile: IRS approved mileage rate.

D. Lodging: allow $120/person/day

E. Per Diem: $50/person/day

F. Labor Rate: charged in accordance with the Architect’s Labor Costs and Billing Rates per Attachment A to this Section.

PART 2 - PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

ATTACHMENT A

KOMATSU ARCHITECTURE
LABOR COSTS & BILLING RATES
Effective January 2024

POSITION	**BILLING RATE**
Project Manager	$190.00
Project Architect I	$145.00
Architect II	$130.00
Senior Technical I	$115.00
Drafter II	$107.00
Drafter III	$ 75.00
Tech Special Support	$ 69.00
Estimator	$135.00
Construction Administrator	$125.00

END OF SECTION 01220 – PROGRESS MEETINGS

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 01300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Refer to Bidding Requirements, General Conditions of the Contract for Construction, Supplementary Conditions, and Division One sections for specifications on administrative, non-work-related submittals. Such submittals include, but are not limited to, the following:
   1. Permits.
   2. Payment applications.
   3. Performance and Payment Bonds.
   4. Insurance certificates.
   5. Inspection and test reports.
   6. Schedule of values.
   7. Progress reports.
   8. Progress Photos.
   9. Listing of subcontractors.
   10. Submittal log listing all anticipated submittals of materials, mock-ups, shop drawings or other submittals required by these specifications.

B. Refer to the General Conditions of the Contract for Construction and Supplementary Conditions for basic procedures for submittal handling.

C. Refer to applicable specification section for specific submittal requirements of individual units of the work.

1.2 DEFINITIONS

A. General: Non administrative submittals including shop drawings, product data, samples, and miscellaneous work-related submittals are to amplify, expand, and coordinate the information contained in the Contract Documents.
   1. Shop Drawings are technical drawings and data that have been specially prepared for this project, i.e., standard information prepared without specific reference to this project is not considered to be shop drawings. Shop drawings include, but are not limited to, the following:
      a. Fabrication and installation drawings.
      b. Setting diagrams.
      c. Shop work manufacturing instructions.
      d. Templates.
      e. Patterns.
      f. Coordination drawings (for use on-site).
      g. Schedules.
      h. Contractor’s engineering calculations.
      i. Design mix formulas.
   2. Product data includes standard printed information on manufactured products that has not been specially prepared for this project, including, but not limited to, the following:

a. Manufacturer's product specifications and installation instructions.
b. Standard color charts.
c. Catalog cuts.
d. Roughing-in diagram and templates.
e. Standard wiring diagrams.
f. Printed performance curves.
g. Operational range diagrams.
h. Mill reports.
i. Standard product operating and maintenance manuals.

3. Samples are physical examples of work, including, but not limited to, the following:
   a. Partial sections of manufactured or fabricated work.
   b. Small cuts or containers of materials.
   c. Complete units of repetitively used materials.
   d. Swatches showing color, texture, and pattern.
   e. Color range sets.
   f. Units of work to be used for independent inspection and testing.
   g. Mock-ups and special forms of samples, which are too large or otherwise inconvenient for handling in the manner specified for transmittal of sample submittals.
4. Miscellaneous submittals are work-related, non-administrative submittals, including, but not limited to, the following:
   a. Specially prepared and standard printed warranties.
   b. Maintenance agreements.
   c. Survey data and reports.
   d. Testing and certification reports.
   e. Record drawings.
   f. Field measurement data.
   g. Operating and maintenance manuals.
   h. Keys and other security protection devices.
   i. Maintenance tools and spare parts.
   j. Overrun stock.

1.3 SUBMITTAL PROCEDURES

A. Coordination: Coordinate the preparation and processing of submittals with the performance of the work. Coordinate each separate submittal with other submittals and related activities such as testing, purchasing, fabrication, delivery, and similar activities that require sequential activity.
   1. Coordinate with the submittal of different units of inter-related work so that one submittal will not be delayed by the Architect/Engineer's need to review a related submittal. The Architect/Engineer reserves the right to withhold action on any submittal requiring coordination with other submittals until related submittals are forthcoming.
   2. The contractor shall coordinate all related trades, materials and products between submittals to assure the afore-mentioned items are compatible regardless of conflicts found within the construction documents. Added cost will not be awarded for purchase or re-installation of non-compatible products or materials submitted in separate submittal packages and not pre coordinated and checked for compatibility by the Contractor. The Contractor shall coordinate <u>all</u> products, materials and trades for each assembly prior to issuing submittals for said items to the Architect and Owner.

B. Scheduling: After development and acceptance of the Contractor's Construction Schedule, prepare a complete schedule of submittals. In each appropriate administrative submittal, such as the Progress Schedule, show the principal work-related submittals and time requirements for coordination of submittal activity with related work.
   1. Coordinate Submittal Schedule with the list of subcontracts, Schedule of values, and the list of products as well as the Contractor's Construction Schedule.
   2. Prepare the schedule in chronological order. Provide the following information:
      a. Scheduled date for the first submittal.
      b. Related Section number.
      c. Submittal category (Shop Drawing, Product Data, or Sample).
      d. Name of subcontractor.
      e. Description of the part of Work covered.
      f. Scheduled date for resubmittal.
      g. Scheduled date for the Architect's final release or approval.
   3. Coordination of Submittal Times: Prepare and transmit each submittal to the Architect/ Engineer sufficiently in advance of the scheduled performance of related work and other applicable activities. Transmit different kinds of submittals for the same unit of work so that processing will not be delayed by the Architect/Engineer's need to review submittals concurrently for coordination.
      a. Review Time: Allow sufficient time so that the installation will not be delayed as a result of the time required to properly process submittals, including time for re-submittal, if necessary. Advise the Architect/Engineer on each submittal, as to whether processing time is critical to the progress of the work, and if the work would be expedited if processing time could be shortened
         1) Allow two weeks for the Architect/Engineer's initial processing of each submittal. Allow four weeks or longer when processing must be delayed for coordination with subsequent submittals or for processing through other consultants or vendors. The Architect/Engineer will advise the Contractor promptly when it is determined that a submittal being processed must be delayed for coordination.
            (i) Allow four weeks or longer for submittals to be reviewed by the Architect and/or Engineer and the Texas Historical Commission Authorized Representative.
         2) Allow two weeks for reprocessing each submittal.
         3) No extension of contract time will be authorized because of the Contractor's failure to transmit submittals to the Architect/Engineer sufficiently in advance of the work.
         4) No extension of contract time will be authorized because of the requirement for the Contractor to resubmit rejected submittals.

C. Submittal Requirements: The following information and procedures are required for each submittal for proper processing and recording of action taken.
   1. Package each submittal appropriately for transmittal and handling. Transmit each submittal from the Contractor to the Architect/Engineer, and to other destinations, by use of a transmittal form. Submit under Architect accepted form transmittal letter.
   2. Identify Project by title and number.
   3. Identify Contractor, subcontractor or supplier.

4. Identify Drawing sheets and detail numbers, and Specification number, as appropriate.
5. Identify Work and product by Specification section and Article number.
6. Provide complete submittals for each specified product, system or equipment. Partial or incomplete submittals will be returned.
    a. Deliver submittals to the Architect's office. Submittals will be accepted only by the Contractor unless extenuating circumstances exist and then only with prior review by the Architect. Submittals received from sources other than the Contractor will be returned to the sender "without action" at contractor's expense.
7. Submit product data, shop drawings, samples, calculations, certificates, manufacturer's instructions, and other items requested within each specification section.
8. Number submittals using Specification section number and unique numeric reference number. For example, Specification Section – 08710-01 would be the first submittal for that Specification Section, 08710-02 would be the next one and so on.
9. Each item or Article number to be assigned its own submittal number. Do not combine under one submittal number.
10. Add a letter designation, i.e., "A", "B", "C", to the sequence number for each resubmittal of the same data.
11. Apply/affix Contractor's stamp or permanent label. Sign or initial and date certifying that a thorough review, verification of products, field dimensions, adjacent construction Work, and coordination of information, is in accordance with requirements of Work and Contract Documents.
12. **Submittals will be returned at contractor's expense without processing if they have not been reviewed and stamped by the Contractor for coordination of work and conformance with the Drawings and Specifications prior to submission to the Architect. If they are not initialed or signed by the designated authorized person, if they are not dated, if they are not properly numbered, or if it becomes evident that they have not been properly reviewed, they will be immediately returned without being processed. Delays resulting there from will not be the responsibility of the Architect**.
13. Clearly identify on submittals, or in writing at the time of submission, deviations in submittals from requirements of the Contract Documents.
14. Do not perform Work on any element requiring submittal and review of shop drawings, product data, samples, or other similar submittals until respective submittal has been returned after being reviewed by Architect and/or Consultants.
15. Maintain in the field office a copy of the submittal schedule, a log of the current status of each and a copy of all returned submittals.
16. Architect and/or Owner are not responsible for delays to work schedule and will not approve schedule extensions if submitted items require less than the allotted review time due to contractor's late submission, submittal rejection(s) or other unanticipated events.

D. Shop Drawings: Include fabrication and installation Drawings, setting diagrams, schedules, patterns, templates and similar Drawings.
    1. Information includes dimensions, identification of specific products and materials, compliance with specified standards, and notations of coordination requirements with other work. Provide special notation of dimensions that have been established by field measurement. Highlight, encircle, or otherwise indicate deviations from the contract documents on the shop drawings. Show locations of existing conditions which may affect installation of new Work.

2. Present in a clear and thorough manner original drawings which illustrate the portion of the Work showing fabrication, layout, setting, or erection details, prepared by a qualified detailer. Title each drawing with Project and Contract name and number; identify each element of drawings by reference to sheet number and detail, schedule, or room number of Contract Documents.
3. Check and coordinate Shop Drawings of any section or trade with requirements of other sections or trades and as necessary for proper coordination and complete installation of Work.
4. Do not permit shop drawing copies without an appropriate final "Action" marking by the Architect/Engineer to be used in connection with the work.
5. Do not allow use of Shop Drawings without an appropriate final stamp indicating "Action" taken.
6. Preparation: Submit newly prepared information, drawn to accurate scale on sheets not less than 8-1/2" x 11" except for actual pattern or template type drawings, the maximum sheet size shall not exceed 36" x 48". Indicate the name of the firm that prepared each shop drawing and provide appropriate project identification in the title block. Provide a space not less than 20 square inches beside the title block for marking the record of the review process and the Architect/Engineer's and Contractor's "Action" marking.
    a. Provide original shop drawings. Do not reproduce contract documents or copy standard printed information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing and will be returned without benefit of review.
7. Revise and resubmit submittals as required, identify all changes made since previous submittal.
8. Submittal: Provide six blue line or black line prints; three will be returned.
    a. Architect will retain one copy for the Project file; one copy will be retained by the Engineer/Consultant.
    b. Contractor responsible for making copies of the final "approved" for distribution to, but not necessarily limited to, subcontractors, vendors, and field personnel.
    c. It is the Contractor's responsibility to provide the Owner with a full set of submittals.
    d. It is the Contractor's responsibility to mark and maintain one copy as the "Record Document".
9. Shop drawings via email transmission.
    a. Shop drawings may not be transmitted via email unless approved prior by the owner and/or Architect.

E. Product Data: General information includes manufacturer's standard printed recommendations for application and use, compliance with recognized standards of trade associations and testing agencies, and the application of their labels and seals (if any), special notation of dimensions which have been verified by way of field measurement, and special coordination requirements for interfacing the material, product, or system with other work.
1. Preparation: Collect data into a single submittal for each unit of work or system. Mark each copy to show choices and options applicable; mark out information that is not applicable.
2. Submittals: Except as otherwise specified in individual sections, submit six copies of each; three copies will be returned.

a. Do not submit product data or allow its use on the project until compliance with the requirements of the contract documents has been confirmed by the Contractor.
b. Distribution: Furnish copies of product data to field personnel, subcontractors, suppliers, fabricators, manufacturers, installers, governing authorities and others as required for proper performance of the work. Show distribution on transmittal form.
c. Installation Copy: Do not proceed with installation of materials, products and systems until a copy of product data applicable to the installation is in the possession of the installer. Do not permit the use of unmarked copies of product data in connection with the performance of the work.
d. It is the Contractor's responsibility to provide the Owner with a full set of submittals.
e. It is the Contractor's responsibility to mark and maintain one copy as the "Record Document".
f. Submittal via email transmission:
    a. Where submittal requires only product data, documentation may be printed or scanned to a .pdf file and one copy transmitted via email to the appropriate parties. One scanned or printed to .pdf version of commentary will be emailed back to the contractor.
    b. Include a pdf transmittal with the submittal.

F. Samples: Not later than 30 days following award of contract, submit all samples required for the Architect/Engineer visual review of kind, color, pattern, texture, and for quality control comparison, including generic description of the sample, the sample source or the product name or manufacturer, and compliance with governing regulations and recognized standards. In addition, indicate availability limitations, sizes, delivery time, and similar limiting characteristics. Label each sample with identification required for transmittal letter with full Project information.
1. Refer to individual work sections of these specifications for additional sample requirements, which may be intended for examination or testing of additional characteristics. Compliance with other required characteristics is the exclusive responsibility of the Contractor. Such compliance is not considered in the Architect/ Engineer's review and "Action" indication on sample submittals.
2. Preparation: Provide samples that are physically identical with the proposed material or product to be incorporated in the work. For the Architect/Engineer's initial selection of color, texture and pattern, submit a full set of available choices. For the Architect/Engineer's verification of color, texture and pattern selection, submit items as specified in each individual section. Where variations in color, pattern, or texture are inherent in the sample, submit items as specified in each individual section. Prepare samples to match the Architect/Engineer's sample where so specified.
3. Submittal: Submit four sets of samples; two sets will be returned.
    a. Distribution: Maintain one set of samples at the project site throughout the course of performing the work.
4. Mock-ups and similar samples specified in individual work sections are special types of samples. Comply with sample submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.
    a. Contractor shall notify Architect when mockups are to be ready for viewing within sufficient time for Architect to coordinate with the Texas Historical Commission Authorized Representative to also review.

b. Onsite constructed mockups, either stand alone or incorporated as part of the building, shall be viewed by both the Architect/Engineer and the Texas Historical Commission Authorized Representative.

c. The Contractor shall at the earliest stage of the construction completely finish out a typical space to include all masonry patching, repointing, cleaning; restoration and/or reconstruction of windows, doors, frames, and other woodwork to fully illustrate the range of finishes to be anticipated and in accordance with the Contract Documents. Include any additional elements that are to be incorporated in the Work.

G. Miscellaneous Submittals:

1. Inspection and Test Reports: Classify each inspection and test report as being either "shop drawings" or "product data" and process accordingly. Unless otherwise specified in individual sections, provide four copies of reports; one copy will be returned.
2. Warranties: Refer to section "Products and Substitutions" for specific general requirements on warranties. In addition to copies desired for the Contractor's use, furnish two executed copies of such warranties. Provide two additional copies where required for maintenance manuals. No copies will be returned.
3. Closeout Submittals: Refer to section "Project Closeout" and to individual sections of these specifications for specific submittal requirements of project closeout information, materials, tools, and similar items
   a. Record Documents: Furnish one (1) set of original print documents as maintained on the project site and one (1) set of reproduced documents indicating the same information.
   b. Operating and Maintenance Data: Furnish two bound copies of operating data and maintenance manuals, if applicable.
   c. Materials and Tools: Refer to individual sections of these specifications for quantities of spare parts, extra and overrun stock, maintenance tools and devices, keys, and similar physical units to be submitted, if applicable.
   d. Distribution: Deliver first to the Architect to check for compliance; Contractor will deliver final copies to the Owner.

1.4 CONTRACTOR ACTION

A. Review, approve, and stamp all items prior to submission to Architect.

B. Stamp must indicate that Contractor has:

1. Verified all field dimensions and quantities.
2. Verified all field construction criteria, materials, catalog numbers, and similar data.
3. Reviewed and coordinated all submittal data with requirements of the work and contract documents.
4. Certified that submittals comply with Contract Documents.

C. Reproduce and distribute submittals receiving "No Exceptions Taken" or "Exceptions as Noted".

D. Resubmit items indicated as "Revise and Resubmit".

1. Provide print of previous drawing with re-submission for comparison.
2. Add letter suffix to previous transmittal number to indicate re-submission.

E. Submittals not following these procedures will be returned as “Not Reviewed”, “Revise and Resubmit” at contractor’s expense.

1.5 ARCHITECT/ENGINEER’S ACTION

A. General: Except for record and Owner data, the Architect/Engineer will review each submittal, mark with appropriate “Action”, and return within indicated time period.
   1. Action Stamp/Submittal Cover: The Architect/Engineer will provide Submittal Review Cover, appropriately marked and executed to indicate next action.
   2. Review by Architect/Engineer: For any single item, the Architect/Engineer will review the original submittal and, if necessary, one revised submittal without cost to the Contractor. However, should a revised submittal be so incomplete or inaccurate, in the judgment of the Architect/Engineer, as to require further corrections and resubmittals, the cost of reviewing the subsequent resubmittals will be billed to the Contractor by the Architect/Engineer.
   3. Submittal comments by the Architect/Engineer: The Architect/Engineer will respond with the following categories and/or verbiage:
      a. Returned without comment: The Architect/Engineer has reviewed the submittal and found no issues with the submitted data.
      b. Returned with comment: The Architect/Engineer has reviewed the submittal and found issues requiring commentary. The contractor shall review said submittal comments and take the appropriate action to correct or satisfy the issues.
      c. Revise and resubmit: The Architect/engineer has determined the submittal to be insufficient to proceed with installing the subject product. The contractor shall make the appropriate corrections and resubmit a complete package.
      d. Submit specific item: The Architect/Engineer has determined the contractor is required to submit specific missing or additional information to complete the review of the submittal package.
      e. Not Subject to Review: The Architect/Engineer has determined that the information submitted is not required to be reviewed and will be returned or filed with no action taken.

B. Submittal Review and responsibility by Architect/Engineer and Contractor: Submittal reviews are a cursory check of the contractor’s interpretation of the contract documents and comments will be made accordingly. In no way does the final review of a submittal by the Owner, Architect or Engineer, constitute an "approval" of flawed submittals indicating inferior products, incorrect products or construction methods not seen by the reviewer. Contractors are solely responsible to provide equal or exceeding quality products and installation to those shown in the contract documents. The Owner reserves the right to with hold payment for any products or workmanship of inferior quality even if it was depicted in the submittal package and reviewed by any of the above-mentioned parties. Such mentioned items will be deemed deviations or substitutions requiring the appropriate submittal form and therefore in violation of section 1300.1.6 rendering the submittal invalid.
   1. Architect’s review is not conducted for purpose of determining accuracy and completeness of items such as dimensions and quantities, which remain the responsibility of the contractor.
   2. Architect’s review of submittal does not relieve Contractor of the responsibility for deviations from Contract Document requirements unless Architect is informed in writing

of deviations and specific approval is received in writing from Architect for such deviation.

3. Architect's review and acceptance of submittals does not indicate acceptance of changes in Contract time or cost.

1.6 DEVIATIONS AND SUBSTITUTIONS:

A. Deviations: The contractor shall alert the submittal reviewer of any products or installation methods not consistent with that depicted within the contract documents with the appropriate deviations form. Such information and form related to the deviation will be included with the related submittal and relevant information highlighted for the Architect/Engineer to easily decipher and review for adequacy.

B. Substitutions: The contractor shall alert the submittal reviewer of any specified products requiring substitution with the appropriate substitutions form. Such information and form related to the substitution will be included with the related submittal and relevant information highlighted for the Architect/Engineer to easily decipher and review for adequacy.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01300 – SUBMITTAL PROCEDURES

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 01320
CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SCOPE OF WORK

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

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
   1. Contractor's Construction Schedule.
   2. Submittals Schedule.
   3. Daily construction reports.
   4. Field condition reports.
   5. Special reports.
   6. Construction photographs.

1.3 SUBMITTALS

A. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:
   1. Scheduled date for first submittal.
   2. Specification Section number and title.
   3. Submittal category (action or informational).
   4. Name of subcontractor.
   5. Description of the Work covered.
   6. Scheduled date for Architect's final release or approval.

B. Contractor's Construction Schedule: Submit two printed copies of initial schedule, one a reproducible print and one a black-line print, large enough to show entire schedule for entire construction period.

C. Construction Photographs:
   1. Contractor shall take professional quality photographs of the work progress to accompany each monthly application for payment.
   2. Additionally, the contractor shall take photographs during the following phases of the construction to adequately document the progress of the work:
      a. Conditions prior to commencement of work or demolition,
      b. Major construction events and
      c. The project upon Substantial Completion.
      d. Photograph a minimum of 20 different views of interior at each specified interval/time or **as many views as necessary to completely document the progress of the work shall be taken.**

e. Three full sets of photographs shall be prepared; Updated photograph files shall be submitted to the Architect within seven days of taking the photograph.

3. Acceptable Formats: Digital formats will be required. Use only one format throughout the project.
   a. Digital photographs:
      1) Resolution: minimum resolution 1600 x 1200, or better,
      2) Prints: One set
      3) Contractor shall provide one set of photographs in jpg format on a CD at each payment application submittal interval. Photographs shall be representative of the complete work depicted in the pay application.
      4) Contractor shall provide the digital photograph files on CD at the close out of the project or at intervals requested by the Architect. Files shall be .jpg format.

4. Identification: Accompanying each photo cd, provide an applied label with the following information:
   a. Name of Project.
   b. Name of person that took the photograph
   c. Name of Architect.
   d. Name of Contractor.
   e. Date photograph(s) was(were) taken.
   f. For each frame: Description of vantage point and, indicating location, direction (by compass point), and elevation or story of construction.

5. Photographer will be required to employ digital imaging methods for daily documentation of the work progress using a high quality camera apparatus with capability of high resolution photography.
   a. Further, the contractor shall employ a means of recording all photographs onto a writable compact disc for archiving.
   b. Contractor shall provide to the Architect new photographs on compact disk at the end of each specified interval.
   c. Additionally, the contractor shall employ means of on-site communication with the Architect via internet e-mail by which means photographs can be sent to the Architect for review, discussion, and coordination of on-site issues during the work progress.

D. Daily Construction Reports: Submit two copies at monthly intervals, at time of Application for Payment.

E. Field Condition Reports: Submit two copies at time of discovery of differing conditions, impacting construction progress.

F. Special Reports: Submit two copies at time of unusual event, discovery of uncovered existing construction conditions.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
   1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."

B. Time Frame: Extend schedule from date established for commencement of the Work to date of Final Completion
   1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

2.3 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following applicable information concerning events at Project site:
   1. List of separate contractors at Project site.
   2. Work under construction.
   3. High and low temperatures and general weather conditions.
   4. Meetings and significant decisions.
   5. Stoppages, delays, shortages, and losses.
   6. Construction Change Directives received.
   7. Services connected and disconnected.
   8. Equipment or system tests and startups.
   9. Substantial Completions authorized.

B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare a detailed report. Submit with a request for information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.4 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, and response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 –EXECUTION (Not Applicable)

END OF SECTION 01320 – CONSTRUCTION PROGRESS DOCUMENTATION

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 01350
SPECIAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

A. The Bates-Sheppard House and its surrounding property are an historic building and site. The property is listed as a Registered Texas Historic Landmark. The General Contractor and all sub-contractors shall take special precautions to protect all surfaces from damage caused by any operations under this contract. Similarly, the General Contractor and sub-contractors shall be fully responsible for all personnel on the site in terms of protecting and maintaining the historic integrity of the Project property.

1. Unless noted otherwise, or otherwise directed, the contractor/subcontractor is to consider all structures on the site as historic.
2. The project is a restoration project; do not disturb sound materials or assemblies found on site unless specifically directed by the construction documents to remove, demolish, or otherwise alter. Original elements to be removed salvaged, and reused/reinstalled shall be removed carefully, labeled as to location of origin, and safely stored until time of reinstallation.
3. All procedures, methods and operations used in the work shall conform to the *Secretary of the Interior Standards for the Treatment of Historic Properties* as promulgated by the Texas Historical Commission and National Park Service. https://www.nps.gov/orgs/1739/secretary-standards-treatment-historic-properties.htm
4. The Contractor shall immediately notify the Owner and Architect upon discovery of heretofore unknown historic conditions, assemblies or materials.

B. DEFINITIONS

1. Pursuant to the historic nature of this project, the following definitions of terms as taken from the Texas Administrative Code, Title 13, Cultural Resources, Part 2, Texas Historical Commission, Chapter 21 History Programs are offered here:
   a. Restoration. Means the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restored period. (As defined by the Secretary of the Interior's Standards for the Treatment of Historic Properties (1995 edition, or as revised)).
   b. Reconstruction. Means the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location. (As defined by the Secretary of the Interior's Standards for the Treatment of Historic Properties (1995 edition, or

as revised)).

c. Preservation. Means the act or process of applying measures necessary to sustain the existing form, integrity, and materials of a historic property. (As defined by the Secretary of the Interior's Standards for the Treatment of Historic Properties (1995 edition, or as revised)).

d. Rehabilitation. Means the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values. (As defined by the Secretary of the Interior's Standards for the Treatment of Historic Properties (1995 edition, or as revised)).

2. In addition to the above definitions:

a. Match Existing: Provide new materials to match the visible existing materials under consideration to the closest extent possible.

b. Match Original: similar to Match Existing but specifically directed toward documented materials or assemblies identified as original to the building, either observation of extant evidence or ascertained through records, photographs or other documentation. Original materials are those installed in the building at the time of its initial (original) construction or at the time established as the restoration era for the purposes of the THCPP and as established in the Preservation Master Plan report.

C. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General project coordination procedures of the work relative to the historic nature of the building and the site.
2. General protection requirements.
3. Special protection requirements.
4. Special procedures related to discovery of historic or archeological findings.
5. Special site access requirements:
   a. Public access during the project.
   b. Maintenance of required exits from the building throughout the project.
   c. Provision of temporary accessibility measures for the handicapped.
6. Special site security measures:
   a. Site security fence,
   b. Special measures for public safety.
7. Special site landscaping coordination measures.

D. Each contractor/subcontractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to contractor/subcontractors who have expertise in special areas.

E. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 1 Section "Construction Progress Documentation" for preparing and submitting the contractor/subcontractor's Construction Schedule.
2. Division 1 Section "Project Closeout" for coordinating Contract closeout.

1.3 COORDINATION

A. Coordination: Each Contractor/subcontractor shall coordinate its construction operations

with those of other contractor /subcontractors and entities to ensure efficient and orderly installation of each part of the Work relative to the special procedures outlined in this section. Each contractor/subcontractor shall coordinate its operations with operations, included in different Sections, which depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components with other contractor/subcontractors to ensure maximum accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings, special notifications regarding the historic or archeological nature of the work, or of the findings as defined.

1. Prepare similar memoranda for Owner and separate Contractor/subcontractors if coordination of their Work is required.

1.4 SPECIFIC REQUIREMENTS - SCHEDULING AND SAFETY PLAN

A. The Scheduling and Safety Plan shall fully address the following issues:

1. Building Egress:
   a. Occupancy or vacancy of the Courthouse during the construction period: TBD.
   b. Periodically during the duration of the project, the Owner may request that the contractor/subcontractor make available portions of the work site for special Progress Tours by the County staff and the public. Egress during these limited duration periods shall be maintained by the contractor/subcontractor.
   c. The Contractor/subcontractor shall provide a written plan to the City for this provision in the event that the County requests and schedules a public inspection/tour event(s).
2. Site Security:
   a. The contractor/subcontractor shall be required to install a 6’ high chain link construction fence around the perimeter of the work area; maintain throughout the project.
   b. Contractor/subcontractor may be required to modify the fence perimeter during the course of the project as required to properly coordinate with the varying scheduling requirements noted below.
   c. All areas of work shall be designated as off limits to the public. All areas of work to be designated as Hard Hat Area(s).
   d. All use of the public right of way shall be coordinated with the City for all use permits and fees.
   e. All uses of the adjoining rights of way shall be coordinated with both the City and the TxDOT office for all aspects of traffic related safety including but not limited to:
      1) barricades as required for any aspect of the work that requires usage of the adjoining rights of way,
      2) Provision and maintenance of traffic safety procedures including flagmen for any moving equipment, truck access, off-loading of materials or

equipment, or other temporary use of rights of way.

3. Building Entrance Safety:
   a. Contractor/subcontractor shall coordinate scaffolding operations with the maintenance of safe ingress and egress routes for the construction personnel throughout the project.
   b. Coordinate the scheduling of operations for the various parts of the project with the scaffolding issues.
4. Building Entrance Safety - Temporary Usage:
   a. Periodically during the duration of the project, the Owner may request that the contractor/subcontractor make available portions of the work site for special Progress Tours by the County staff and the public.
   b. The above will be fully coordinated by the County with the contractor/subcontractor for limited ingress and egress on specific days for limited duration only. This provision is reserved by the Owner for public relations opportunities during the work for citizens of Marion County to be allowed to view the progress of construction.
   c. The provisions of building entrance safety as it relates to scaffolding and maintenance of safe means of ingress and egress as stated above shall be maintained during these events.

1.5 SPECIAL ADMINISTRATIVE PROCEDURES:

A. In the event that features, materials, or artifacts, either architectural or archeological in nature are discovered or uncovered during the execution of the work, proceed accordingly:

1. Halt work in the immediate area; do not disturb the area of the discovery until the Owner, or the Owner's representative has had the opportunity to observe, review, and evaluate the found materials.
2. The Owner reserves the right to document, or have documented by a qualified professional, the location, surrounding conditions, and any other pertinent circumstances relative to the found materials.
3. Any time lost due to the intervening procedures noted above being implemented shall be a condition for which the time of the contract may be extended. The contractor/subcontractor shall initiate documentation procedures immediately upon the uncovering or discovery event, and shall maintain said documentation pertinent to the specific issue regarding the uncovered or discovered materials.
4. All costs for the excavation or further uncovering of the uncovered or discovered materials shall be borne by the Owner.
5. All costs for the salvaging of uncovered or discovered materials shall be borne by the Owner.
6. All costs for the documentation of the uncovered or discovered materials or related conditions shall be borne by the Owner.

7. The Owner reserves the right to retain possession and ownership of the objects, artifacts, and historically or archeologically significant materials, other than normal building or site construction materials, discovered throughout the project.

1.6 SPECIAL OPERATIONAL PROCEDURES:

A. Protection Issues: Protect all existing finishes, features, components, assemblies of an architectural or historic nature designated to remain in place, to be reused, or to be removed, stored, labeled, and reused.

B. Salvage Issues: All existing features, components, assemblies noted to be removed and delivered to the Owner shall be carefully removed as to avoid any damage, safely stored on site until the Owner can remove from the site.

C. General Protection Procedures Issues: exercise extreme caution in removing historic elements or removing items, materials, etc. from historic substrates that are scheduled to remain.
1. Unbolt any originally bolted connections.
2. Unscrew any originally screwed connections.
3. Do not pry apart members whose finish will thereby be damaged by chipping, crazing, flaking, or cracking, or whose structural integrity will thereby be impaired or compromised.
4. Do not remove nails from the finished or exposed side of woodwork. Drive nails through or pull from the back so that the head does not splinter the finished face.

1.7 SPECIAL LANDSCAPING MANAGEMENT REQUIREMENTS

A. Prior to the commencement of the work, the contractor/subcontractor shall carefully remove any plantings indicated to be removed and salvaged on the site demo plan and deliver to the Owner for replanting elsewhere.

1.8 SPECIAL COORDINATION REQUIREMENTS for ADJOINING RIGHTS OF WAY (R. O. W.)

A. The R.O.W.s directly adjacent to the project are the City’s jurisdiction.

B. The contractor/subcontractor for the Project is required to contact the City to fully coordinate all issues surrounding this Project as they may affect or impact the use of city street Rights of Way.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION 01350 – SPECIAL PROCEDURES

*** THIS PAGE INTENTIONALLY LEFT BLANK ***

SECTION 01505
TEMPORARY FACILITIES

PART 1 - GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

A. Definitions: Specific administrative and procedural minimum actions are specified in this section, as extensions of provisions in the General Conditions and other contract documents. These requirements have been included for special purposes as specified. Nothing in this section is intended to limit types and amounts of temporary work required, and no omission from this section will be recognized as an indication by the Architect that such temporary activity is not required for successful completion of the work and compliance with requirements of contract documents. Provisions of this section are applicable to, but not necessarily limited to, utility services, construction facilities, security/protection provisions, and support facilities.

1.2 QUALITY ASSURANCE

A. General: In addition to compliance with governing regulations and rules/recommendations of franchised utility companies, comply with specific requirements and with applicable local industry standards for construction work (published recommendations by local consensus "building councils").

B. ANSI Standards: Comply with applicable provisions of ANSI A10 Series standards on construction safety, including A10.3, A10.4, A10.5, A10.6, A10.7, A10.8, A10.9, A10.10, A10.11, A10.12, A10.13, A10.14, A10.15, A10.16, A10.17, A10.18, A10.20, and A10.22.

C. NFPA Code: Comply with NFPA Code 241 "Building Construction and Demolition Operations."

D. Conservation: Install and operate temporary facilities and perform construction activities in manner which reasonably will be conservative and avoid waste of energy and materials, including water.

1.3 JOB CONDITIONS

A. General: Establish and initiate use of each temporary facility at time first reasonably required for proper performance of the work. Terminate use and remove facilities at earliest reasonable time; when no longer needed or when permanent facilities have, with authorized use, replaced the need.

B. Conditions of Use: Install, operate, maintain, and protect temporary facilities in a manner, and at locations, which will be safe, non-hazardous, sanitary, protective of persons and property, and free of deleterious effects. Keep site clean of all debris and perform a weekly thorough clean-up of the entire site.

C. The Contractor shall be required to install a 6' high chain link construction fence around the perimeter of the work area to be maintained in good condition throughout the project. Modify

the fence perimeter during the course of the project as required to properly coordinate with the varying scheduling requirements.

D. The contractor/subcontractor's proposed utilization of the site, location of temporary facilities and parking, site access routing, and work required beyond the project enclosure fence shall be coordinated with the Owner.

PART 2 - PRODUCTS

2.1 TEMPORARY UTILITY SERVICES

A. The types of services required include, but are not necessarily limited to, water, sewerage, surface drainage, electrical power, and telephones. Connect to existing franchised utilities for required hook-ups and distribution, and comply with service companies' recommendations on materials and methods, or engage service companies to install services. Locate and relocate services as necessary to minimize interference with construction operations.

B. The Contractor/subcontractor shall make all arrangements with the Owner and local electric company for temporary electrical service; provide all equipment necessary for temporary power and lighting; pay all charges for the equipment, the installation of same, and for current consumed during construction operations.

C. Temporary Water: The Contractor/subcontractor shall provide all water for construction purposes. The Contractor shall make the necessary arrangements with the City Water Department and incur all expenses.

D. Temporary Power: Provide service with ground-fault circuit interrupter features, activated from each circuit of 20-amp or less rating.

E. Metering: Provide meters for water and electrical power services.

F. Temporary Telephone Services: The Contractor/subcontractor shall provide and maintain (at his expense) a temporary telephone service at the project site for the use of his personnel and the Architect's representative.

2.2 TEMPORARY CONSTRUCTION FACILITIES

A. The types of temporary construction facilities required include, but are not necessarily limited to, water distribution, drainage, enclosure of work, heat, ventilation, electrical power distribution, lighting, and hoisting facilities. Provide facilities reasonably required to perform construction operations properly and adequately.

B. Water Distribution: Provide as necessary for construction. Pipe to roof level and provide hose lengths sufficient to reach entire area of construction work, not less than 3/4" hose size. Prevent freezing of water distribution by either prompt drainage after each use, or by suitable protection. Maintain 30 psi minimum water pressure at hose outlets, by temporary pumping where necessary.

C. Enclosure: Provide temporary enclosure where reasonably required to ensure adequate workmanship and protection from weather and unsatisfactory ambient conditions for the work, including enclosure where temporary heat is used.

D. Heating: If available, use gas from piped distribution system. If not available, heat with self-contained LP gas or fuel oil heaters, bearing UL, FM or other approval labels appropriate for application. Vent fuel-burning heaters, and equip units with individual space thermostatic controls. Use electric resistance space heaters only where no other, more energy efficient type of heater is available and allowable. No open fires of any type will be permitted.

E. Electrical Power: Provide weatherproof, grounded, power distribution system, sufficient to accommodate construction operations requiring power, use of power tools, electrical heating, lighting, and start-up testing of permanent electric powered equipment prior to its permanent connection to electrical system. Provide overload protection. Locate multiple outlets (not less than 4-gang) at construction, spaced so that entire area of construction can be reached by power tools on a single extension cord of 100' maximum length.
   1. Supply power for electric welding, if any, from either temporary power distribution system or by engine-driven power generation sets, at Contractor/subcontractor's option.

F. Lighting: Provide sufficient temporary lighting to ensure proper workmanship everywhere by combined use of daylight, general lighting, and portable plug-in task lighting. Provide general lighting with local switching which will enable energy conservation during periods of varying activity (work-in-progress, traffic only, security check, lock-up, etc.). Insufficient lighting during material installation will not be a consideration for rejection of work.

2.3 SECURITY/PROTECTION PROVISIONS

A. The types of temporary security and protection provisions required include, but are not necessarily limited to, barricades, warning signs/lights, building enclosure/lockup, environmental protection, and similar provision intended to minimize property losses, personal injuries, and claims for damages at project site. Such temporary protection shall conform to the requirements of the applicable City Ordinances.

B. Building Enclosure and Lockup: As may be required, coordinate with Owner's onsite representative regarding daily securing and locking of the building. At no time is the contractor to leave the premises without coordinating to ensure that provisions are in place to secure the premises.

C. The Owner will not be held responsible for stolen, damaged or vandalized equipment or materials stored on site. The contractor is solely responsible for securing the site in its entirety and assumes all liability for damage or theft of purchased equipment and materials.

2.4 TEMPORARY SUPPORT FACILITIES

A. The types of temporary support facilities required include, but are not necessarily limited to, field offices, storage sheds, fabrication sheds, stone storage yard, sanitary facilities, drinking water, first aid facilities, bulletin board, private and public telephones, clocks, clean-up facilities, waste disposal service, rodent/pest control, and similar miscellaneous general services, all as may be reasonably required for proficient performance of the work and accommodation of personnel at the site, including Architect's/Engineer's personnel. Discontinue and remove temporary support facilities, and make incidental similar use of permanent work of the project, only when, and in manner authorized by, Architect/Engineer; and, if not otherwise required, immediately before time of substantial completion. Locate temporary support facilities for convenience of users, and for minimum interference with construction activities.

B. Temporary Field Offices: Provide temporary office of not less than 100 square feet for the use of the Contractor and the Architect's field representative. The spaces shall be equipped with a desk, legal size four-drawer filing cabinet, plan table, two chairs, a direct line telephone, and shall be capable of being locked and secured. Contractor to coordinate usage of interior spaces for this purpose with the Owner's Representative.

C. Sanitary Facilities: At Contractor's option, provide either piped (wet) toilet facilities or self-contained toilet units of type acceptable to governing authorities, adequate (at all stages of construction) for use of personnel at project site. Provide separate facilities for male and female personnel when both sexes are working (in any capacity) at project site. Provide piped (wet) wash facilities with hot water except during time when only earthwork and foundation work are in progress, wash facilities may be limited to wet type paper hand towels. Do not use Owner's existing facilities. Contractor's personnel shall remain within the confines of the work area.

D. Project Identification Site Sign
   1. Provide 4'-0" x 8'-0" project identification sign of wood frame and exterior grade plywood construction, as per the requirements of the Texas Historical Commission and in accordance with graphic provided by Architect in Construction Documents.
   2. Contractor shall provide 2'-0"x 4'-0" mock up on artists board for review and approval in accordance with the graphic provided by the Architect (see drawings).
   3. Erect sign on the site at a location established by the Architect and approved by the THC Authorized Representative. Mount appropriately sized posts set into ground with 5' clearance between the bottom of the sign and the ground. Brace the sign on both sides with 4x4 wood braces.
   4. Allow no other signs to be displayed.

PART 3 – EXECUTION (Not Applicable)

END OF SECTION 01505 - TEMPORARY FACILITIES

SECTION 01600
MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Provisions established within General and Supplementary Conditions of the Contract, Division 1 - General Requirements, and the Drawings are collectively applicable to this Section.

B. Related Sections:
1. Division 1 Section 01095 “Reference Standards and Definitions “specifies the applicability of industry standards to products specified.
2. Division 1 Section 01300 “Required Submittals” specifies requirements for submittal of the Contractor’s Construction Schedule and Submittal Schedule.
3. Division 1 Section 01605 “Products and Substitutions” specifies administrative procedures for handling requests for substitutions made after award of the Contract.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements governing the Contractor’s selection of products for use in the Project.

1.3 DEFINITIONS

A. Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as “specialties”, “systems”, “structure”, “finishes”, “accessories”, and similar terms. Such terms are self-explanatory and have well-recognized meanings in the construction industry.
1. Products: Items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term “product” includes the terms “material”, “equipment”, “system”, and terms of similar intent.
2. Named Products: Items identified by the manufacturer’s product name, including make or model number or other designation, shown or listed in the manufacturer’s published product literature that is current as of the date of the Contract Documents.
3. Materials: Products substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
4. Equipment: A product with operational parts, whether motorized or manually operated, that requires service connections, such as wiring or piping.

1.4 SUBMITTALS

A. Product List: Prepare a list showing products specified in tabular form acceptable to the Architect. Include generic names of products required. Include the manufacturer’s name and proprietary product names for each item listed.

1. Coordinate product list with the Contractor's Construction Schedule of Submittals
2. Form: Prepare product list with information on each item tabulated under the following column headings:
   a. Related Specification Section number.
   b. Generic name used in Contract Documents
   c. Proprietary name, model number, and similar designations.
   d. Manufacturer's name and address.
   e. Supplier's name and address.
   f. Installer's name and address.
   g. Projected delivery date or time span of delivery period.

B. Completed List: Within 30 days after date of commencement of the Work, submit the completed product list. Provide written explanation for omissions of data and for known variations from Contract requirements.

C. Architect's Action: The Architect will respond in writing to Contractor within 14 days of receipt of the completed product list. No response within this period constitutes no objection to listed manufacturers or products but does not constitute a waiver of the requirement that products comply with Contract Documents. The Architect's response will include a list of unacceptable product selections, containing a brief explanation of reasons for this action.

1.5 QUALITY ASSURANCE

A. Source Limitations: To the fullest extent possible, provide products of the same kind from a single source.
   1. When specified products are available from sources that do not, or cannot, produce a quantity adequate to complete project requirements in a timely manner, consult with the Architect to determine the most important product qualities before proceeding. Qualities may include attributes, such as visual appearance, strength, durability, or compatibility. When a determination has been made, select products from sources producing products that possess these qualities, to the fullest extent possible.

B. Compatibility of Options: When the Contractor is given the option of selecting between two or more products for use on the Project, the project selected shall be compatible with products previously selected, even if previously selected products were also options.

C. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturers or producer's nameplates or trademarks on exposed surfaces of products that will be exposed to view in occupied spaces or on the exterior.

D. Labels: Locate required product labels and stamps on concealed surfaces or, where required for observation after installation, on accessible surfaces that are not conspicuous.

E. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface that is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:
   1. Name of product and manufacturer.
   2. Model and serial number.
   3. Capacity.

4. Speed.
5. Ratings.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products according to the manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.
   1. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
   2. Coordinate delivery with installation time to assure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
   3. Deliver products to the site in an undamaged condition in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
   4. Inspect products upon delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
   5. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
   6. Store heavy materials away from the Project structure in a manner that will not endanger the supporting structure.
   7. Store products subject to damage by the elements above ground, under cover in a weather tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION

A. General Product Requirements: Provide products that comply with the Contract documents, that are undamaged and, unless otherwise indicated, new at the time of installation.
   1. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.
   2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.

B. Product Selection Procedures: The Contract Documents and governing regulations govern product selection. Procedures governing product selection include the following:
   1. Proprietary Specification Requirements: Where Specifications name only a single product or manufacturer, provide the product indicated. No substitutions will be permitted.
   2. Semi proprietary Specification Requirements: Where Specifications name two or more products or manufacturers, provide one of the products indicated. No substitutions will be permitted.
      a. Where Specifications specify products or manufacturers by name, accompanied by the term "or equal" or "or approved equal", comply with the Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
   3. Nonproprietary Specifications: When Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Contractor to

use of these products only, the Contractor may propose any available product that complies with Contract requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.

4. Descriptive Specification Requirements: Where Specifications describe a product or assembly, listing exact characteristic required, with or without use of a brand or trade name, provide a product or assembly that provided the characteristics and otherwise complies with Contract requirements.
5. Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements and are recommended by the manufacturer for the application indicated.
    a. Manufacturer's recommendations may be contained in published product literature or by the manufacturer's certification of performance.
6. Compliance with Standards, Codes, and Regulations: where Specifications only require compliance with an imposed code, standard, or regulation, select a product that complies with the standards, codes, or regulations specified.
7. Visual Matching: Where Specifications require matching an established Sample, the Architect's decision will be final on whether a proposed product matches satisfactorily.
    a. Where no product available within the specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category.
8. Visual selection: Where specified product requirements include the phrase "... as selected from manufacturer's standard colors, patterns, textures…" or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Architect will select the color, pattern, and texture from the product line selected.

PART 3 – EXECUTION

3.1 INSTALLATION OF PRODUCTS

A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.
    1. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION 01600 – MATERIALS AND EQUIPMENT

SECTION 01605
PRODUCTS AND SUBSTITUTIONS

PART 1 - GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

A. "Products" is defined to include purchased items for incorporation into the work, regardless of whether specifically purchased for project or taken from Contractor's stock of previously purchased products.

B. "Materials" is defined as products which must be substantially cut, shaped, worked, mixed, finished, refined or otherwise fabricated, processed, installed or applied to form units of work.

C. "Equipment" is defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, etc.)

D. Definitions in this paragraph are not intended to negate the meaning of other terms used in contract documents, including "specialties," "systems," "structure," "finishes," "accessories," "furnishings," "special construction," and similar terms, which are self-explanatory and have recognized meanings in the construction industry.

1.2 QUALITY ASSURANCE

A. Source Limitations: To the greatest extent possible for each unit of work, provide products or materials of a singular generic kind and from a single source.

1.3 PRODUCT DELIVERY-STORAGE-HANDLING

A. General: Deliver, handle and store products in accordance with manufacturer's recommendations and by methods and means which will prevent damage, deterioration, and loss (including theft). Control delivery schedules to minimize long-term storage of products at site and overcrowding of construction spaces. In particular, provide delivery/installation coordination to ensure minimum holding or storage times for products recognized to be flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other sources of loss.

1.4 WARRANTIES (GUARANTEES)

A. Categories of Specific Warranties: Warranties on the work are in several categories, including those of General Conditions, and including (but not necessarily limited to) the following specific categories related to individual units of work specified in sections of Divisions 2 through 9 or these specifications:
   1. Special Project Warranty (Guarantee): A warranty specifically written and signed by Contractor for a defined portion of the work and, where required, countersigned by subcontractor, installer, manufacturer or other entity engaged by Contractor.
   2. Specified Product Warranty: A warranty which is required by contract documents to be provided for a manufactured product incorporated into the work, regardless of whether

manufacturer has published a similar warranty without regard for specific incorporation of product into the work, or has written and executed a special project warranty as a direct result of contract document requirements.

3. Coincidental Product Warranty: A warranty which is not specifically required by contract documents (other than as specified in this Section), but which is available on a product incorporated into the work, by virtue of the fact that manufacturer of product has published warranty in connection with purchases and uses of product without regard for specific applications except as otherwise limited by terms of warranty.
4. Refer to individual sections of Divisions 2 through 9 for the determination of units of work which are required to be specifically or individually warranted, and for the specific requirements and terms of those warranties (or guarantees).
5. General Limitations: It is recognized that specific warranties are intended primarily to protect Owner against failure of the work to perform as required, and against deficient, defective and faulty materials and workmanship, regardless of sources. Except as otherwise indicated, specific warranties do not cover failures in the work which result from the following:
   a. Unusual and abnormal phenomena of the elements.
   b. The Owner's misuse, maltreatment or improper maintenance of the work.
   c. Vandalism after time of substantial completion.
   d. Insurrection or acts of aggression including war.
6. Related Damages and Losses: In connection with Contractor's correction of warranted work which has failed, remove and replace other work of project which has been damaged as a result of such failure, or which must be removed and replaced to provide access for correction of warranted work.
   a. Consequential Damages: Except as otherwise indicated or required by governing regulations, special project warranties and product warranties are not extended to cover damage to building contents (other than work of Contract) which occurs as a result of failure of warranted work.
7. Reinstatement of Warranty Period: Unless specifically noted otherwise, when work covered by a special project warranty or product warranty has failed and has been corrected by replacement or restoration, reinstate warranty by written endorsement for a period of time starting on date of acceptance of replaced or restored work and ending upon date original warranty would have expired if there had been no failure.
8. Replacement Cost, Obligations: Unless specifically noted otherwise, cost of replacing or restoring a warranted unit or product is Contractor's obligation, without regard for whether Owner has already benefitted from use through a portion of the anticipated useful service life.

B. Rejection of Warranties: Owner reserves the right, at time of substantial completion or thereafter, to reject coincidental product warranties submitted by Contractor, which in opinion of Owner tend to detract from or confuse interpretation of requirements of contract documents.

C. Contractor's Procurement Obligations: Do not purchase, subcontract for, or allow others to purchase or sub-subcontract for materials or units of work for project where a special project warranty, specified product warranty, certification or similar commitment is required, until it has been determined that entities required to countersign such commitments are willing to do so.

1.5 GENERAL PRODUCT COMPLIANCE

A. General: The compliance requirements, for individual products as indicated in contract documents, are multiple in nature and may include generic, descriptive, proprietary, performance, prescriptive, compliance with standards, compliance with codes, conformance with graphic details and other similar forms and methods of indicating requirements, all of which must be complied with.

B. Procedures for Selecting Products: Contractor's options for selecting products are limited by contract document requirements, and governing regulations, and are not controlled by industry traditions or procedures experienced by contractor on previous construction projects. Required procedures include, but are not necessarily limited to, the following for various indicated methods of specifying:
   1. Single Product/Manufacturer Name: Provide product indicated, except advise Architect/Engineer before proceeding, where known that named product is not a feasible or acceptable selection.
   2. Two or More Product/Manufacturer Names: Provide one of the named products, at Contractor's option, but excluding products which do not comply with requirements. Do not provide or offer to provide an unnamed product, except where none of named products comply with requirements or are a feasible selection; advise Architect/Engineer before proceeding.
   3. "Or Equal": Where named products in specifications text are accompanied by the term "or equal", or other language of similar effect, comply with those contract document provisions concerning "substitutions" for obtaining Architect's/Engineer's approval (by change order) to provide an unnamed product.
   4. Standards, Codes and Regulations: Where only compliance with an imposed standard, code or regulation is required, selection from among products which comply with requirements including those standards, codes and regulations, is Contractor's option.
   5. Performance Requirements: Provide products which comply with specific performances indicated, and which are recommended by manufacturer (in published product literature or by individual certification) for application indicated. Overall performance of a product is implied where product is specified with only certain specific performance requirements.

C. Prescriptive Requirements: Provide products which have been produced in accordance with prescriptive requirements, using specified ingredients and components, and complying with specified requirements for mixing, fabricating, curing, finishing, testing and similar operations in manufacturing process.

D. Visual Matching: Where matching with an established sample is required, final judgment of whether a product proposed by Contractor matches sample satisfactorily shall be made by the Architect. Where no product within specified cost category is available which matches sample satisfactorily and complies with requirements, comply with contract document provisions concerning "substitutions" and "change orders" for selection of a matching product outside established cost category, or of a product not complying with requirements.

E. Visual Selection: Except as otherwise indicated, where specified product requirements include ". . . as selected from manufacturer's standard colors, patterns, textures. . ." or words of similar effect, the selection of manufacturer and basic product (comply with requirements) is Contractor's option, and subsequent selection of color, pattern and texture is Architect's selection. Where specified product requirements include ". . . as selected from standard colors, patterns, textures available within the industry. . .", or words to that effect, selection of product

(complying with requirements, and within established cost category) is Architect's selection, including designation of manufacturer where necessary to obtain desired color, pattern or texture.

1.6 GENERAL PRODUCT REQUIREMENTS

A. General: Provide products which comply with requirements, and which are undamaged and unused at time of installation, and which are complete with accessories, trim, finish, safety guards and other devices and details needed for complete installation and for intended use and effect.
   1. Standard Products: Where available, provide standard products of types which have been produced and used previously and successfully on other projects and in similar applications.
   2. Continued Availability: Where additional amounts of a product, by nature of its application, are likely to be needed by Owner at a later date for maintenance and repair or replacement work, provide a standard, domestically produced product which is likely to be available to Owner at such later date.

B. Nameplates: Except as otherwise indicated for required approval labels, do not permanently attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view on exterior of work.
   1. Labels: Locate required labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface which is not conspicuous.

C. Asbestos: No products containing asbestos shall be installed in this facility. Each manufacturer shall provide certification literature to the Architect/Engineer/Owner, for each of their respective products/materials to be installed, verifying that each is 100% free of asbestos. Literature shall be provided well in advance of installation. No material or installation payments will be made unless the certification literature has been submitted to the Architect/Engineer/Owner. The Owner will have laboratory tests performed on representative samples of materials. Any product found to contain asbestos shall be removed immediately at the Contractor's expense and replaced with 100% asbestos-free products with accompanying certification.

1.7 SUBSTITUTIONS

A. All Substitutions must have the approval of the THC reviewer.

B. General
   1. The requirements for substitutions do not apply to specified Contractor options on products and construction methods.
   2. Revisions to contract documents, where requested by Owner or Architect/Engineer, are "changes", not "substitutions".
   3. Requested substitutions during bidding period, which have been accepted prior to Contract Date, are included in contract documents and are not subject to requirements for substitutions as specified herein.
   4. Contractor's determination of and compliance with governing regulations and orders issued by governing authorities do not constitute "substitutions", and do not constitute a basis for change orders, except as provided for in documents.
   5. All other requests by the Contractor for changes in products, materials and methods of

construction required by contract documents will be considered requests for "substitutions", and are subject to requirements hereof.

C. Requests for Substitutions Prior to Award of Contract:
   1. Requests for substitution of material, products, and equipment will be considered by the Architect/Engineer provided such requests for substitution are received in writing at the office of the Architect/Engineer not later than 15 days prior to the date established for the receipt of bids.
   2. It shall be the responsibility of the Bidder to provide a clear, well-documented, and easily referenced presentation of all comparison data and physical samples relating to any request for substitution. Time constraints and the quantity of materials will not allow the Architect/Engineer to research or perform any extensive comparison work relating to requests for substitution.
   3. All substitute materials, products, or equipment which are acceptable to the Architect/Engineer will be listed in an addendum which will be distributed to all plan holders of record.
   4. Requests for substitution which are deemed by the Architect/Engineer to be incomplete or unacceptable will not be acted upon.

D. Requests for Substitutions After Award of Contract:
   1. After the Contract has been executed, the Owner and Architect will consider a formal request for the substitution of products in place of those specified, under the following conditions:
      a. The request for proposed substitution shall be submitted within 30 days after award of the Contract. All requests submitted after expiration of this time limit shall be accompanied by a letter from the manufacturer certifying that the specified product(s) is no longer available.
      b. The request shall be accompanied by complete data on the proposed substitution substantiating compliance with the Contract Documents including product identification and description, performance and test data, references and samples where applicable, and an itemized comparison of the proposed substitution with the products specified or named by Addenda, with data relating to Contract time schedule, design and artistic effect where applicable, and its relationship to separate contracts.
      c. The request shall be accompanied by accurate cost data on the proposed substitution detailing the reduction to the Contract Sum if the substitution is accepted.
      d. Extensive revisions to contract documents shall not be required and changes shall be in keeping with general intent of contract documents.
      e. One or more of the following conditions shall be satisfied in the judgment of the Architect.
         1) Request is directly related to an "or equal" clause or other language of same effect in contract documents.
         2) Required product, material or method cannot be provided within Contract Time, but not as a result of Contractor's failure to pursue the work promptly or to coordinate various activities properly.
         3) Required product, material or method cannot be provided in a manner which is compatible with other materials of the work, or cannot be properly coordinated therewith, or cannot be warranted as required, or cannot be used without adversely affecting Owner's insurance coverage on completed work,

or will encounter other substantial noncompliance which are not possible to overcome otherwise except by making requested substitution. In requesting the substitutions, Contractor thereby certifies to overcome such non-compatibility, non-coordination, non-warranty, non-insurability or other non-compliance as claimed.

4) Required product, material or method cannot receive required approval by a governing authority, and requested substitution can be so approved.
5) Substantial advantage is offered Owner, in terms of cost, time, energy conservation or other valuable considerations, after deducting offsetting responsibilities Owner may be required to bear, including additional compensation to Architect/Engineer for redesign and evaluation services, increased cost of other work by Owner or separate contractors, and similar considerations.

f. A request for substitution not meeting the above conditions will be returned without action having been taken, except to record non-compliance with the requirements.
g. Requests for substitution, when forwarded by the Contractor to the Architect in accordance with the conditions described above, are understood to mean that the Contractor:
   1) represents that he has personally investigated the proposed substitute product and determine that it is equal or superior in all respects to that specified;
   2) will provide the same guarantee for the substitution that he would for that specified;
   3) certifies that the cost data presented is complete and includes all related costs under this Contract, but excludes the Architect's redesign costs, and that he waives all claims for additional costs related to the substitution which subsequently become apparent; and
   4) will coordinate the installation of the accepted substitute, making such changes as may be required for the work to be complete in all respects.
h. Substitutions will not be considered if:
   1) they are requested after expiration of specified time limit;
   2) they are indicated or implied on shop drawings submissions without the formal request required above; or
   3) for the implementation they require a substantial revision of the contract documents in order to accommodate their use.

2. All requested substitutions for products, materials, assemblies that have the potential for affecting the quality or historic character and integrity of the project and building will be additionally reviewed by the Texas Historical Commission Authorized Representative.
   a. The contractor shall ensure that the submittal of substitution or change requests that include products, materials, assemblies that have the potential for affecting the quality or historic character and integrity of the project and building shall be submitted in a timely manner so as to facilitate the review by the THC without negatively affecting the overall schedule.

END OF SECTION 01605 – PRODUCTS AND SUBSTITUTIONS

Bates Sheppard House
Komatsu Architecture

SUBSTITUTION REQUEST FORM

PROJECT:_____ ARCHITECT'S PROJECT NO._____

To:_____ Date:_____

From:_____

Contractor hereby requests acceptance of the following product or system as substitution in accordance with provisions of section 01605 of the Specifications:

1. SPECIFIED PRODUCT OR SYSTEM:

   Substitution request for: _____

   Specification Section No.: _____ Article: _____

2. SUPPORTING DATA:

   _____ Product data adequate for evaluation for the request for proposed substitution is attached (description of product, reference standard, performance and test data, specifications, drawings, photograph).

   _____ Sample is attached.

   _____ Sample will be sent upon request.

3. QUALITY COMPARISON:

	SPECIFIED PRODUCT	SUBSTITUTION
Name, brand	_____	_____
Manufacturer	_____	_____
Model No.	_____	_____
Vendor	_____	_____
Warranty	_____	_____

   Significant Variations _____

   _____

(Attach additional sheet if necessary)

4. REASON FOR SUBSTITUTION REQUEST:

_____

_____

_____

5. EFFECT OF SUBSTITUTION:
Does the proposed substitution affect other work (adverse or otherwise)?
No _____ Yes _____ (If yes, explain)

_____

_____

_____

Substitution changes contract time: No _____ Yes _____ Add/Deduct Days _____

Savings/Credit to Owner $_____ Extra Cost to Owner $_____

6. CONTRACTOR'S STATEMENT OF COMFORMANCE OF PROPOSED SUBSTITUTION:

I/we have investigated the proposed substitution and (a) believe that it is equal or superior in all respects including function, appearance and quality to specified product, except as stated above, (b) will provide same warranty and servicing requirements as specified for specified product, (c) have included complete cost data and implications of the substitution, (d) will pay for changes to the building design, including any additional A/E fees, and special inspection costs caused by the use of this product, (e) will coordinate the incorporation of the proposed substitution in the work and (f) waive future claims for added cost to Contract caused by the substitution.

Submitted By:_____ Date:_____

ARCHITECT'S REVIEW AND ACTION

_____ Substitution is Accepted

_____ Substitution is accepted with the following comments:_____

_____

_____ Substitution is Rejected

_____ Resubmit and provide additional information

Architect _____ Date: _____

SECTION 01700
PROJECT CLOSEOUT

PART 1 - GENERAL

1.1 PROJECT CLOSEOUT

A. The Contractor shall give the Owner and the Architect at least ten days' advance notice of the date when the work will be substantially complete and ready for inspection.

B. If, in the opinion of the Owner and Architect, the project is indeed substantially complete, he will then schedule a walk through inspection to take place within ten days following receipt of the contractor's notification.

C. The contractor will inspect the project for compliance with the requirements of the Contract Documents. He will prepare a "punch list" of all deficiencies and submit to the Architect a comprehensive list of those items to be completed or corrected. This list is made a matter of record and serves as a guide for the contractor when correcting the deficiencies.

D. The "punch list" will be provided to the Owner and Architect for review seven days prior to the final walk through date. The Owner's representative along with the Architect or Architect's Representative will verify all punch list items are completed and add any additional items found during this walk through period. The delivery of the punch list to the contractor shall not be construed as an acceptance of work not performed nor shall the "punch list" be construed as limiting the work to be performed pursuant to the Contract.

E. Additional deficiencies which may be discovered subsequently by the Architect or Owner's Representative shall be corrected in accordance with the terms of the Contract.

F. The Contractor's attention is directed to the General Conditions of the Contract for Construction and Supplementary Conditions for correction of defective work and additional closeout instructions.

G. Final Inspection will be made by the Architect and Owner within ten days after receipt of contractor's written notice that all deficiencies have been corrected, and that all work required as a part of the Contract has been completed.

1.2 MANUALS

A. Deliver to the Owner upon substantial completion of the work two copies of maintenance and instruction manuals for all operating equipment items incorporated in this work, if applicable. The maintenance and instruction manuals shall include copies of all warranties and guarantees referred to below, and manufacturer's data reports.

B. The contractor will provide documentation that the Owner or the Owner's Representative has been briefed on the operations of any equipment items incorporated into this work; the instruction manual has been reviewed and the contact information provided in the event there is any equipment failure.

1.3 WARRANTIES AND GUARANTEES

A. All original written warranties and guarantees required by the various sections of the specifications shall be compiled by the contractor into a single bound volume, indexed and catalogued for reference and retrieval. This bound volume shall be delivered to the Owner upon substantial completion of the work.

B. Together with the warranties and guarantees, the contractor shall furnish a complete list of subcontractors, material suppliers, and special fabricators for the mechanical and electrical portions of the work. This list shall include the company name, address, and telephone number, the name of the person to contact, and a list of the items furnished by each subcontractor, material supplier, and fabricator.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01700 - PROJECT CLOSEOUT

SECTION 01710
FINAL CLEANING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Provisions established within General and Supplementary Conditions of the Contract, Division 1 - General Requirements, and the Drawings are collectively applicable to this Section.

B. The General Conditions require general cleaning during construction. Regular site cleaning is included in Division 1 – Temporary Facilities.

1.2 SECTION INCLUDES

A. Final cleaning of project and related site work.

1.3 DESCRIPTION

A. Execute cleaning prior to inspection for Substantial Completion of the Work.

PART 2 - PRODUCTS

2.2 CLEANING MATERIALS

A. Use materials which will not create hazards to health or property, and which will not damage surfaces.

B. Use only materials and methods recommended by manufacturer of material being cleaned.

PART 3 - EXECUTION

3.1 CLEANING

A. In addition to removal of debris and cleaning specified in other sections, clean interior and exterior exposed-to-view surfaces.

B. Remove temporary protection and labels not required to remain.

C. Clean finishes free of dust, stains, films and other foreign substances.

D. Clean transparent and glossy materials to a polished condition; remove foreign substances.

E. Polish reflective surfaces to a clear shine.

F. Clean surfaces of equipment; remove excess lubrication.

G. Clean light fixtures and lamps.

H. Maintain cleaning until Final Completion.

I. Remove waste, foreign matter, and debris from roofs, gutters, area ways, and drainage systems.

J. Remove waste, debris, and surplus materials from site. Clean grounds; remove stains, spills, and foreign substances from paved areas and sweep clean. Rake clean other exterior surfaces.

END OF SECTION 01710 - FINAL CLEANING

SECTION 01720
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Provisions established within General and Supplementary Conditions of the Contract, Division 1- General Requirements, and the Drawings are collectively applicable to this Section.

1.2 SECTION INCLUDES

A. Maintenance of Record Documents and Samples.

B. Submittal of Record Documents and Samples.

1.3 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. In addition to requirements in General Conditions, maintain at the site one record copy of:
1. Contract Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed shop drawings, product data, and samples.
6. Field test records.
7. Inspection certificates.
8. Manufacturer's certificates.

B. Store Record Documents and samples in Field Office apart from documents used for construction. Provide files, racks, and secure storage for Record Documents and samples.

C. Label and file Record Documents and samples in accordance with Section number listings in Table of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.

D. Maintain Record Documents in a clean, dry and legible condition. Do not use Record Documents for construction purposes.

E. Keep Record Documents and samples available for inspection by Architect.

1.4 RECORDING

A. All record drawing information will be transferred to electronic format and delivered to the owner on DVD storage disc.
1. Provide Owner 6 copies and the Architect 4 copies of the DVD containing the following:
    a. Record drawing information hand recorded on full size black line drawings will be transferred to electronic format, compatible with AutoCAD (.dwg) or

Revit (.rvt) file type.

b. Provide modified and unmodified Project Manual documentation in electronic format.

c. Provide all documents, including drawings, Specifications, submittals, RFI's, change orders, photos and all other project documentation not listed in electronic file format.

d. Organize the documentation on the DVD so the user can easily access the documentation. Use the following format to store the information:
   1) Provide a main folder with the project name
   2) Provide a subfolder for each document type (i.e. Drawings, Specifications, RFI's, etc…)
   3) File name for each file shall reflect the content of that file (i.e. "A101.pdf" and "A101.dwg" for drawing sheet A101, "01720 Project Record Documents.pdf for specification section 01710.).
   4) Provide subfolders under each file type to separate file types under each category (i.e. "Drawings" folder shall contain a subfolder named "dwg" and "pdf" that contain said file type).

e. Provide all files in .pdf format and in the file types original format.

f. Provide, under a separate folder name, electronic reader software for .dwg files and .pdf file formats.
   1) AutoCAD file reader:
   http://www.solidworks.com/sw/support/edrawings/e2_downloadcheck.htm
   http://www.autodwg.com/dwg-viewer/download.htm
   2) pdf reader:
   http://get.adobe.com/reader/

B. Provide felt tip marking pens, maintaining separate colors for each major system, for recording information.

C. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.

D. Contract Drawings and Shop Drawings: Legibly mark each item to record actual construction, including
   1. Measured horizontal locations for water, storm drainage, and sanitary sewer drainage piping and measured horizontal and vertical locations for all other underground utilities, referenced to permanent surface improvements.
   2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of construction.
   3. Field changes of dimension and detail.
   4. Changes made by Modifications.
   5. Details not on original Contract Drawings.
   6. References to related shop drawings and Modifications.

E. Other Documents:
   1. Maintain manufacturer's certifications, inspection certifications, field test records, and other documents required by individual Specifications sections.
   2. Sitework documentation: In addition to the requirements above, the contractor shall provide the following documentation and recording of the sitework to expressly and accurately record all the underground improvements constructed in this Phase One of

the Courthouse restoration work.

a. Provide the services of a registered licensed surveyor to survey accurately the locations and depths (flow line/inverts) of all underground improvements provided under this contract.
b. Additionally, in conjunction with the above, confirm locations of all existing underground improvements both those remaining in use and those abandoned as part of the site work programs.
c. Record all the above on a new AutoCAD-based drawing (No older than version 2009); deliver same to the Owner and Architect on compact disk. Deliver four hard (bond paper) copies to the Owner; paper copies shall bear the original seal and signature of the surveyor and/or seal of the surveying firm.

F. Deliver one (1) hard copy of the updated project drawings to the owner.

1.5 SUBMITTALS

A. At Contract closeout, deliver Record Documents and samples under provisions of Section 01700.

B. Transmit with cover letter in duplicate, listing
1. Date.
2. Project title and number.
3. Contractor's name, address, and telephone number.
4. Number and title of each Record Document.
5. Signature of Contractor or authorized representative.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION 01720 - PROJECT RECORD DOCUMENTS

*** THIS PAGE INTENTIONALLY LOEFT BLANK ***

SECTION 023100 -
SURVEY, EXAMINATION AND DISCOVERY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract apply to this section.

1.2 SUMMARY

A. Section includes, but is not limited to, a description of the processes for two separate series of operations further described below:

1. **Survey Operations**: includes, but is not limited to, the observations necessary to corroborate the quantities. The work in these sub-sections may be predicated on limited demolition necessary to allow a full measurement and quantification assessment. NOTE: this is different from the selective demolition prescribed and described in part C – Examination and Discovery below. All survey operations shall be conducted in the presence of the Architect and/or the THC Representative.
2. **Examination and Discovery Operations**: includes, but is not limited to, selective demolition operations and active inspection by the Architect and THC representative to discover and confirm historic materials or assemblies that are concealed and heretofore unavailable for assessment as part of the Scope of Work.

B. **Survey Operations** will entail the work necessary to assess and confirm the quantities of work. These observations are, to the most part, for those assemblies or materials that are readily available for examination, observations and assessment but do not entail the careful selective demolition with the objective being discovery as with the Examination and Discovery Operations described below. These operations will determine the quantity of work to be demolished, salvaged, refurbished or restored upon which the unit costs will be applied and the contract sum amended accordingly.

C. **Examination and Discovery Operations** will entail the work necessary to provide for limited selective demolition to facilitate the examination of specific historical elements or concealed existing conditions of the existing building to determine:

1. The actual historic fabric to be qualified as the historically correct materials, assemblies to be targeted for restoration or replication to properly complete the restoration.
2. The actual quantity of work to be demolished, salvaged, refurbished or restored upon which the unit costs will be applied and the contract sum amended accordingly.
3. Contractor is required to have written approval from Architect and THC Representative of all locations and methods used for selective demolition.
4. Contractor shall provide photographic documentation of all items to be demolished.
5. Contractor shall have approval of mock-ups of demolition methods by Architect and THC Representative prior to commencement of the work.

D. Section includes a description of the time period required to be allotted for discovery of items currently unable to be accessed for examination.

E. No work other than what is stated in this section may commence until a "Notice to Proceed" (NTP) is issued by the Owner, Texas Historical Commission (THC) and the Architect.

F. A "Notice to Proceed" (NTP) for the work stated in the balance of the contract documents will not be issued until all parts of this section are satisfied.

Exception: The Owner, THC and Architect may release portions of the work stated in this project for early start if it is determined such work will not interfere with the requirements stated in other areas delineated in this section.

G. The schedule for the execution of the Survey work and the Examination and Discovery phase work will run concurrently. The Contractor is required to provide a schedule to initiate and conclude the work involved in these two scope items. The requirements of the Survey work can be initiated and concluded with results to the Architect not later than the time frame established for the submittal of results from the Examination and Discovery phase.

H. All Survey Operations observations and site-based documentation shall be performed in the presence of the Architect (and if available, the THC Representative).

J. All Examination & Discovery Operations observations and site-based documentation shall be performed in the presence of the Architect (and if available, the THC Representative).

K. All determinations of quantities of work developed as part of the Survey Operations and the Examination and Discovery operations will be developed in meeting with the Architect and the THC Representative prior to a written Notice to Proceed for the work involved.

1.3 SURVEY TIME PERIOD

A. Prior to commencing selective demolition as specified in other specification sections and indicated on the drawings, the contractor shall conduct a survey of the items listed below. A limited amount of selective demolition may be allowed during this period to facilitate some aspects of the Survey requirements and which will not impose conditions disruptive to either the balance of Survey requirements or the Examination and Discovery requirements.

B. The contractor shall use all available and appropriate methods and/or equipment to determine the condition of each listed item and upon completion submit the documentation required by this section.

D. The contractor shall conduct the work stated in this section within the duration submitted with the accepted bid proposal and construction schedule.

E. The Survey Time Period will run concurrent with the time period outlined for the Examination and Discovery Procedures outlined in sections 1.6 and 1.7 below. The selective demolition for the Survey period will be initiated simultaneously with that of the Examination and Discovery. The duration of the selective demolition for the Survey work

may be extended into the 60 day evaluation period of the Examination and Discovery. The Survey results must be submitted to the Architect not later than the date for evaluations of the Examination and Discovery submitted by the Architect. Refer to the schedule for the Examination and Discovery Time Period in 1.6 below.

1.4 SURVEY ITEMS

A. Provide a conditions survey or updated surveys for the following items.
   a. Wood siding, associated fasteners, and underlying sheathing, framing, etc.
   b. Wood windows including jamb, sashes, trim, hardware, associated accessories (shutters, screens, etc.) and underlying framing
   c. Wood doors including jamb, leaf, threshold, hardware, and underlying framing
   d. Wood porch floor, railing, balustrade, columns, soffit, beadboard, and any underlying framing
   e. Interior wall sheathing adjacent to work

1.5 EXAMINATION TIME PERIOD

A. Upon completion of selected demolition items listed, provide the Architect, THC and Owner 60 days to conduct an examination of the exposed original materials and structure. The schedule for events during the 60 day time period:

   1. 1 weeks - Architect and THC to meet onsite to review on-site Discovery items
   2. 2 weeks – Architect and THC to evaluate the Discovery findings; develop alternative plans based on Discovery items; THC approval. Provide conceptual plans to Contractor for pricing purposes.
   3. 2 weeks – Contractor to provide alternative costs as required by Discovery items; Contractor to provide results of Survey items together with alternative costs.
   4. 1 week - Architect, Owner and THC to review revised pricing structure and approve.
   5. 2 weeks – Architect to revise plans as needed; issue ASI documents. Owner to issue Amendment to Contractor Contract for Construction to modify price as needed. THC approval and NTP.

B. Within the provided 60 day time period, the Architect will submit any changes incurred due to the discovery of original conditions not viewable prior to the demolition conducted as part of this section.

C. No work beyond that listed in this specification may commence without a specific notice to proceed from the Owner.

1.6 EXAMINATION AND DISCOVERY ITEMS

A. Provide careful and selective dismantling of the following items for examination of the original historic covered surface. Provide photographic documentation of all items to be demolished.

a. Wood windows to be removed.
b. Wood siding beyond repair.
c. Wood window elements beyond repair.
d. Wood door elements beyond repair.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION

3.1 PROTECTION

A. Protect all existing historic components during construction from damage or dirt infiltration.

B. Refer to each component's individual specification section for additional protection notes.

END OF SECTION 01730 - EXAMINATION AND DISCOVERY

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.

1.2 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. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.3 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at Project site .

1.4 INFORMATIONAL SUBMITTALS

A. Proposed Protection Measures: Submit report, including narratives and diagrams, that indicates the measures proposed for protecting individuals and property , for environmental protection , for dust control and , for noise control. Indicate proposed locations and construction of barriers. Confirm all methods of protection with owner.

B. Schedule of selective demolition activities with starting and ending dates for each activity.

C. Predemolition photographs or video.

1.5 CLOSEOUT SUBMITTALS

A. Inventory of items that have been removed and salvaged.

1.6 QUALITY ASSURANCE

1.7 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

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

1. Before selective demolition, coordinate with Owner on what will need to be remove to begin demolition:
   a. anything in the attic or on site that needs to be removed .

C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Storage or sale of removed items or materials on-site is not permitted.

E. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Inventory and record the condition of items to be removed and salvaged.

3.2 PREPARATION

3.3 PROTECTION

A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

B. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
4. Maintain fire watch during and for at least 2 hours after flame-cutting operations. There should not be any use of fire.
5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
6. Dispose of demolished items and materials promptly.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

C. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

3.5 CLEANING

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Burning: Do not burn demolished materials.

C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 024296 - HISTORIC REMOVAL AND DISMANTLING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Historic treatment procedures for removal and dismantling work for designated historic spaces, areas, rooms, and surfaces and the following specific work:
   a. Removal and dismantling of indicated portions of building or structure and debris hauling.

B. Related Requirements:

1. Section 013591 "Historic Treatment Procedures" for general historic treatment requirements.
2. Section 028716.13 "Bird Excrement Removal" for removing bird excrement from historic surfaces.

1.2 DEFINITIONS

A. Dismantle: To disassemble or detach a historic item from a surface, or a nonhistoric 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.

B. Existing to Remain: Existing items that are not to be removed or dismantled, except to the degree indicated for performing required Work.

C. Remove: To take down or detach a nonhistoric 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.

D. Retain: To keep an element or detail secure and intact.

E. Salvage: To protect removed or dismantled items and deliver them to Owner.

1.3 PRECONSTRUCTION MEETINGS

A. Preconstruction Conference(s): Conduct conference(s) at Project site .

1. Review minutes of Preliminary Historic Treatment Conference that pertain to removal and dismantling procedures and protection of historic areas and surfaces.
2. Review list of items indicated to be salvaged.
3. Review methods and procedures related to removal and dismantling work.

1.4 INFORMATIONAL SUBMITTALS

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

B. List of Items Indicated To Be Salvaged: Prepare a list of items indicated on Drawings to be salvaged for Owner's use or for reinstallation. Submit 15 days before preconstruction conference. At the moment no items are to be salvaged. Upon dismantling of the roof be aware of any items discovered that one feels maybe salvageable. Contact architect on directive.

1.5 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with notification regulations of authorities having jurisdiction before beginning removal and dismantling work. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.6 FIELD CONDITIONS

A. Conditions existing at time of inspection for bidding purposes will be maintained by Owner as long as practicable.

1. Before removal and dismantling, Owner will remove the following items:
   a. none at the moment, coordinate with owner.

B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.

C. Hazardous Materials:

1. It is not expected that hazardous materials will be encountered in the Work.
   a. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Owner will remove hazardous materials under a separate contract.
      1) In the case of asbestos, stop work in the area of potential hazard, shut off fans and other air handlers ventilating the area, and rope off area until the questionable material is identified. Resume work in the area of concern after safe working conditions are verified.

D. Storage or sale of removed or dismantled items on-site is not permitted unless otherwise indicated.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Preparation for Removal and Dismantling: Examine construction to be removed or dismantled to determine best methods to safely and effectively perform removal and dismantling work.

1. Verify that affected utilities are disconnected and capped.
2. Inventory and record the condition of items to be removed and dismantled for reinstallation or salvage. Enter this information on the inventory of salvaged items.

B. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs [**and**] .

1. Comply with requirements specified in Section 013233 "Photographic Documentation."

C. Perform surveys as the Work progresses to detect hazards resulting from historic removal and dismantling procedures.

3.2 HISTORIC REMOVAL AND DISMANTLING

A. General: Have removal and dismantling work performed by a qualified historic removal and dismantling specialist.

B. Comply with requirements in Section 013591 "Historic Treatment Procedures" for identifying and storing historic items.

C. Perform work according to the historic treatment program.

D. Water-Mist Sprinkling: Use water-mist sprinkling and other wet methods to control dust only with adequate, approved procedures and equipment according to the historic treatment program to ensure that such water does not create a hazard or adversely affect other building areas or materials.

E. Anchorages:

1. Remove anchorages associated with removed items.
2. Dismantle anchorages associated with dismantled items.
3. In nonhistoric surfaces, patch holes created by anchorage removal or dismantling according to the requirements for new work.
4. In historic surfaces, patch or repair holes created by anchorage removal or dismantling according to Section that is specific to the historic surface being patched.

END OF SECTION 024296

SECTION 06031
HISTORIC WOOD REPAIR

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes historic treatment of wood in the form of repairing wood features as follows:

1. Repairing wood siding, base trim, window or door trim, shutters, etc.
2. Replacing wood siding, base trim, window or door trim, shutters, etc.
3. Repairing, refinishing, and replacing related hardware.

B. Related Requirements:
1. 060313 Surface Preparation for Painting Wood
2. 060314 Chemically Removing Paint from Wood Features
3. 060315 Thermal Methods for Removing Paint from Wood Features
4. 060316 Supplemental Guidelines for Removing Paint
5. 060317 Replacing Wood Treads and Risers
6. 060318 Securing an Exterior Wooden Balustrade
7. 060319 Epoxy Repair for Deterioration and Decay in Wooden Members
8. 080314 "Historic Treatment of Wood Doors" for historic wood door repairs, including related trim.
9. 080352 "Historic Treatment of Wood Windows" for historic wood window repairs, including related trim.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Include plans, elevations, and sections showing locations and details of each new unit and its location in the building on annotated plans and elevations.

C. Samples: For each exposed product and for each color and texture specified.

1.3 QUALITY ASSURANCE

A. Historic Treatment Specialist Qualifications: A qualified historic wood-repair specialist, experienced in repairing, refinishing, and replacing wood in whole and in part. Experience only in fabricating and installing new woodwork is insufficient experience for wood historic treatment work.

B. Wood-Repair-Material Manufacturer Qualifications: A firm regularly engaged in producing wood consolidant and wood-patching compound that have been used for similar historic wood-treatment applications with successful results, and with factory-authorized service

representatives who are available for consultation, Project-site inspection, and on-site assistance.

C. Mockups: Prepare mockups of historic treatment repair processes to demonstrate aesthetic effects and to set quality standards for materials and execution, and for fabrication and installation. Prepare mockups so they are as inconspicuous as practicable.

1. Provide a 12” – 24” length of each type of wood element. Width may vary based on element and installation.

PART 2 - PRODUCTS

2.1 HISTORIC WOOD REPAIR, GENERAL

A. Quality Standard: Comply with applicable requirements in Section 12, "Historic Restoration Work," and related requirements in AWI/AWMAC/WI's "Architectural Woodwork Standards" for construction, finishes, grade rules, and other requirements unless otherwise indicated.

1. Exception: Industry practices cited in Section 12, Article 1.5, "Industry Practices," of the Architectural Woodwork Standards do not apply to the work of this Section.

2.2 REPLICATED WOOD ITEMS

A. Replicated Wood Item/Element: Custom-fabricated replacement wood units and components**,** with operating and latching hardware as needed.

1. Wood Species: Match species of existing wood.
2. Wood Member and Trim Profiles: Match profiles and detail of existing.
3. Hardware: Reuse existing unless otherwise indicated, Match existing hardware as needed.

2.3 WOOD-REPLACEMENT MATERIALS

A. Wood, General: Clear fine-grained lumber; kiln dried to a moisture content of 6 to 12 percent at time of fabrication; free of visible finger joints, blue stain, knots, pitch pockets, and surface checks larger than 1/32 inch deep by 2 inches wide.

1. Species: Match species of each existing type of wood component or assembly unless otherwise indicated.

2.4 WOOD-REPAIR MATERIALS

A. Wood Consolidant: Ready-to-use product designed to penetrate, consolidate, and strengthen soft fibers of wood materials that have deteriorated due to weathering and decay and designed specifically to enhance the bond of wood-patching compound to existing wood.

1. Abatron, Inc.
2. ConServ Epoxy, LLC
3. Protective Coating Company
4. System Three Resins, Inc.

B. Wood-Patching Compound: Two-part, epoxy-resin, wood-patching compound; knife-grade formulation as recommended in writing by manufacturer for type of wood repair indicated, tooling time required for the detail of work, and site conditions. Compound shall be designed for filling voids in damaged wood materials that have deteriorated due to weathering and decay. Compound shall be capable of filling deep holes and spreading to featheredge.

1. Abatron, Inc.
2. Advanced Repair Technology Inc.
3. ConServ Epoxy LLC
4. Protective Coatings Company
5. System Three Resins, Inc.

2.5 HARDWARE

A. Hardware, General: Provide hardware required for each type of replicated or repaired wood, including but not limited to, hinges, pulls, latches, fasteners, and accessories indicated or required for proper operation. Hardware shall smoothly operate, tightly close, and secure units appropriately for frequency of use, unit weight, and dimensions.

B. Replacement Hardware: Replace existing damaged or missing hardware with new hardware.

C. Material and Design:

1. Material: Match existing.
2. Design: Custom hardware to replicate existing hardware.

D. Hardware Finishes: Comply with BHMA A156.18 for base material and finish requirements indicated.

2.6 MISCELLANEOUS MATERIALS

A. Borate Preservative Treatment: Inorganic, borate-based solution, with disodium octaborate tetrahydrate as the primary ingredient; manufactured for preserving weathered and decayed wood from further damage caused by fungi and wood-boring insects; complying with AWPA P5; containing no boric acid.

B. Cleaning Materials:

1. Only use mild detergent as needed to clean all historic wood, Ivory Liquid should be used.
2. Use an enzymatic cleaner to combat mold if needed.

C. Adhesives: Wood adhesives with minimum 15- to 45-minute cure at 70 deg F, in gunnable and liquid formulations as recommended in writing by adhesive manufacturer for each type of repair and exposure condition.

D. Fasteners: Use fastener metals that are noncorrosive and compatible with each material joined.

1. Match existing fasteners in material and type of fastener unless otherwise indicated.
2. Use concealed fasteners for interconnecting wood components.
3. Use concealed fasteners for attaching items to other work unless exposed fasteners are the existing fastening method.
4. For fastening metals, use fasteners of same basic metal as fastened metal unless otherwise indicated.
5. For exposed fasteners, use Phillips-type machine screws of head profile flush with metal surface unless otherwise indicated.
6. Finish exposed fasteners to match finish of metal fastened unless otherwise indicated.

2.7 WOOD FINISHES

A. Unfinished Replacement Units: Provide exposed interior wood surfaces of replacement units unfinished; smooth, filled, and suitably prepared for on-site priming and finishing.

B. Factory-Primed Replacement Units: Manufacturer's standard factory-prime coat on exposed interior wood surfaces; compatible with indicated finish coating.

C. Factory-Finished Units: Alkyd or Latex finish system consisting of primer and two finish coats on exposed interior wood surfaces.

1. Finish Coats: As specified in Section 090391 "Historic Treatment of Plain Painting.
2. Color and Gloss: Match existing.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean wood of mildew, algae, moss, plant material, loose paint, grease, dirt, and other debris by scrubbing with bristle brush or sponge and detergent solution. Scrub mildewed areas with mildewcide. After cleaning, rinse thoroughly with fresh water. Allow to dry before repairing or painting.

B. Condition replacement wood members and replacement units to prevailing conditions at installation areas before installing.

3.2 HISTORIC WOOD REPAIR, GENERAL

A. General: In treating historic items, disturb them as minimally as possible and as follows:

1. Stabilize and repair wood to reestablish structural integrity and weather resistance while maintaining the existing form of each item.
2. Remove coatings and apply borate preservative treatment before repair. Remove coatings according to Section 090391 "Historic Treatment of Plain Painting" unless otherwise indicated.
3. Repair items in place where possible.
4. Install temporary protective measures to protect wood-treatment work that is indicated to be completed later.
5. Refinish historic wood according to Section 090391 "Historic Treatment of Plain Painting" unless otherwise indicated.

B. Mechanical Abrasion: Where mechanical abrasion is needed for the work, use only the gentlest mechanical methods, such as scraping and natural-fiber bristle brushing, that will not abrade wood substrate, reducing clarity of detail. Do not use abrasive methods, such as sanding, wire brushing, or power tools, except as approved by Architect.

C. Repair and Refinish Existing Hardware: Dismantle hardware; strip paint, repair, and refinish it to match finish samples; and lubricate moving parts just enough to function smoothly.

D. Repair Wood: Match existing materials and features, retaining as much original material as possible to perform repairs.

1. Unless otherwise indicated, repair wood by consolidating, patching, splicing, or otherwise reinforcing wood with new wood matching existing wood or with salvaged, sound, original wood.
2. Where indicated, repair wood by limited replacement matching existing material.

E. Replace Wood: Where indicated, duplicate and replace units with units made from salvaged, sound, original wood or with new wood matching existing wood. Use surviving prototypes to create patterns for duplicate replacements.

F. Identify removed items with numbering system corresponding to item locations, to ensure reinstallation in same location.

3.3 WOOD PATCH-TYPE REPAIR

A. General: Patch wood that exhibits depressions, holes, or similar voids, and that has limited amounts of rotted or decayed wood.

1. Treat wood with wood consolidant prior to application of patching compound. Coat wood surfaces by brushing, applying multiple coats until wood is saturated and refuses to absorb more. Allow treatment to harden before filling void with patching compound.
2. Remove rotted or decayed wood down to sound wood.

B. Apply borate preservative treatment to accessible surfaces either before applying wood consolidant or after removing rotted or decayed wood.

C. Apply wood-patching compound to fill depressions, nicks, cracks, and other voids created by removed or missing wood.

1. Prime patch area with application of wood consolidant or manufacturer's recommended primer.
2. Apply patching compound in layers as recommended in writing by manufacturer until the void is completely filled.
3. Sand patch surface smooth and flush with adjacent wood, without voids in patch material, and matching contour of wood member.

3.4 WOOD-REPLACEMENT REPAIR

1. Remove broken, rotted, and decayed wood down to sound wood.
2. Custom fabricate new wood to replace missing wood; either replace entire wood member or splice new wood part into existing member.
3. Secure new wood using finger joints, multiple dowels, or splines with adhesive and nailing to ensure maximum structural integrity at each splice. Use only concealed fasteners. Fill nail holes and patch surface to match surrounding sound wood.

B. Apply borate preservative treatment to accessible surfaces after replacements are made. Apply treatment liberally by brush to joints, edges, and ends; top, sides, and bottom.

C. Repair remaining depressions, holes, or similar voids with patch-type repairs.

D. Reinstall items removed for repair into original locations.

END OF SECTION 060312

SECTION 060313 - SURFACE PREPARATION FOR PAINTING WOOD

PART 1---GENERAL

1.01 SUMMARY

A. This specification provides guidance on preparing wood surfaces for painting.
B. Wood surfaces scheduled to be refinished with a transparent finish shall have existing coating stripped and sanded prior to application of new coatings.
C. Wood surfaces scheduled to be finished with an opaque finish shall either be stripped or sanded as required to produce a smooth substrate for application of the new coatings.
D. See also:
    1. "Primers and Paints for Wood"
    2. "Exterior Painting"
    3. "Supplemental Guidelines for Removing Paint from Interior and Exterior Wood Surfaces"
    4. "Chemically Removing Paint from Wood Features"
    5. Section 060315 – Thermal Methods for Removing Paint from Wood Features

PART 2---PRODUCTS

2.01 MANUFACTURERS

A. American International Tool
   Cranston, RI
   1-800-932-5872
B. Benjamin Moore
   Montvale, NJ
   855-724-6802
C. PPG Architectural Coatings
   1-800-441-9695

2.02 MATERIALS

NOTE: Chemical products are sometimes sold under a common name. This usually means that the substance is not as pure as the same chemical sold under its chemical name. The grade of purity of common name substances, however, is usually adequate for stain removal work, and these products should be purchased when available, as they tend to be less expensive. Common names are indicated below by an asterisk (*).

A. Paste Wood Filler: Solvent-based, air-drying, paste-type wood filler for use on open-grain wood on interior wood surfaces such as "Benwood Wood Grain Filler 238" (Benjamin Moore) or approved equal.
B. Trisodium Phosphate (TSP): CAUTION: TSP IS BANNED IN SOME STATES. REGULATORY INFORMATION AND INFORMATION ON ALTERNATIVE OR EQUIVALENT CHEMICALS MAY BE REQUESTED FROM THE ENVIRONMENTAL PROTECTION AGENCY (EPA) REGIONAL OFFICE AND/OR THE STATE OFFICE OF ENVIRONMENTAL QUALITY.
    1. TSP is a strong base-type powdered cleaning chemical sold under several brand names.
    2. Other chemical or common names include Sodium Orthophosphate; Tribasic sodium phosphate; Trisodium orthophosphate; TSP*; Phosphate of soda. Available from chemical supply house, grocery store, supermarket or hardware store.
    3. Products sold as substitutes for TSP may contain soda ash (sodium carbonate) and/or zeolites.
        a. However, sodium carbonate is not as strongly basic as trisodium phosphate, making it less effective in demanding applications.
        b. Zeolites are used in laundry detergents and rapidly break down in water, claiming to be essentially nonpolluting.
    4. Potential Hazards: CAUSTIC TO FLESH, DAMAGING TO THROAT IF INHALED.
    5. Safety Precautions: Wear proper personal protective equipment, and avoid inhalation, contact with skin and eyes, and do not ingest.

-OR-

C. Non-ammoniated detergent such as "Tide"

-OR-

D. Liquid bleach containing 5% sodium hypochlorite (common household bleach)

E. Boiled linseed oil

F. Pure steam-distilled turpentine (must be clean and clear so that it will not adversely affect the texture or durability of the paint)

G. Caulking Compound (listed in order of recommended usage):
    1. Polyurethanes
        a. Easily workable
        b. Paintable
        c. 15-20 year life span
        d. Limited availability
    2. Polysulfides
        a. Slow-drying
        b. Can be sanded and painted
        c. Highly elastic
        d. Limited availability (most frequently used for marine repairs)

3. Butyls
    a. Paintable
    b. Cannot be sanded
    c. 7-10 year life span
4. Silicones
    a. Some can be painted
    b. Generally cannot be sanded
5. Acrylic Latex:
    a. Paintable
    b. 5-10 year lifespan

H. Clean, potable water

2.02 EQUIPMENT

A. Sanding blocks, sanding sponges, orbital sander, all with a variety of grits.
B. HEPA-rated sanding vacuum.
C. Stiff, natural and nylon bristle brushes

PART 3---EXECUTION

3.01 PREPARATION

A. Protection: Spot-prime exposed ferrous metals such as exposed nails heads that could come in contact with surfaces that are to be painted over with water-based paints. Use a suitable corrosion-inhibiting primer capable of preventing flash rusting and compatible with the coating being used.

B. Lead paint hazards
    1. Contractor responsible for taking required lead abatement precautions and procedures.
    2. NOTE: SANDING DUST MAY CONTAIN LEAD; REGULATIONS PROVIDED BY THE EPA REGIONAL OFFICE AND/OR THE STATE OFFICE OF ENVIRONMENTAL QUALITY CONCERNING THE HANDLING OF LEAD-BASE PAINT MUST BE FOLLOWED.
    3. NOTE: SURFACES SHOULD BE TESTED FOR LEAD CONTENT IN ADVANCE OF WORK. IF THE TEST IS POSITIVE AND YOU ARE NOT CERTIFIED TO HANDLE LEAD-ABATEMENT TASKS, IT IS ILLEGAL FOR YOU TO PERFORM FURTHER WORK.
        a. As of 2010, those who perform indoor or outdoor renovation, repair, and painting projects that disturb lead-based paint in various facilities that were built before 1978 must be certified through the EPA, trained, and follow specific work practices to prevent lead contamination.

b. Violators can be fined up to $37,500 per occurrence, per day.

4. For further lead paint abatement information, consult resources produced by leading experts, including the EPA, HUD, NCPTT and the Building Research Council.

C. Surface Preparation:
   1. Lightly sand all surfaces, either by hand or with a sheet orbital sander, using fine grade sandpaper.
      a. Chemical paint removers often raise the wood grain. Any rough fibers of raised grain will need to be sanded smooth as they will otherwise weaken the paint film causing premature paint failure.
      b. Thermal methods of paint removal often leave behind hard particles of paint residue. These will also need to be removed prior to repainting to ensure a smooth paint finish.
      c. Other paint removal technologies include steam generators (like those used for wallpaper removal) and infrared paint stripping.
   2. If only limited paint removal is required, feather edges of sound paint to provide a smooth transition between the old and the new paint. Use either hand methods or a sheet orbital sander.

      NOTE: BELT SANDERS SHOULD ONLY BE USED BY EXPERIENCED PERSONNEL. THEY WORK VERY QUICKLY AND IT IS EASY TO DAMAGE THE WOOD SUBSTRATE IF THEY ARE NOT USED CAREFULLY.

D. Scrape and clean small, dry, seasoned knots and apply a thin coat of white shellac or other recommended knot sealer before application of putty or plastic wood filler to finish surface imperfections. Sand smooth when dried.

E. Countersink all exposed or raised fasteners that project beyond the surface of the wood.
   1. Putty all exposed fastener heads.
   2. Spot-prime exposed ferrous metals such as exposed nails heads that could come in contact with surfaces that are to be painted over with water-based paints. Use a suitable corrosion-inhibiting primer capable of preventing flash rusting and compatible with the coating being used.

F. Fill all nail holes, voids, surface defects, etc. prior to refinishing.
   1. Putty stop holes where nails are set and screws countersunk on all finished woodwork.
   2. Use putty or spackle to repair voids, cracks, minor splits, and similar surface defects in finished woodwork that is to be painted or stain-varnish finished.

G. Recondition wood to ensure a tight bond between the new paint and the wood. Wood that is not reconditioned after paint removal may absorb too much of the binder in the paint, resulting in poor binding of the prime coat.
   1. Mix 2 parts boiled linseed oil with 1 part pure steam-distilled turpentine.
   2. Apply liberally with a brush and allow to dry.
   3. Repeat as necessary until dry surface has a slight sheen.

H. If all paint has not been removed, wash the painted surfaces to remove all grease, dirt and mildew, and to ensure adequate adhesion of the prime coat.
    1. Traditionally, a solution of 3 quarts warm water mixed with 2/3 cup trisodium phosphate (TSP) and 1/2 cup NON-AMMONIATED detergent has been used for this cleaning process. Before attempting this, be sure to read the TSP cautions in 2.02 B. above, and consider alternatives to TSP use.
    2. To combat a mildew problem, add 1 quart of liquid bleach to solution. For stubborn mildew, straight bleach may be necessary.
    3. Scrub surfaces with a medium bristle brush and rinse with clean, clear water. Make sure the surface is completely rinsed before painting.
    4. NOTE: WHEN TSP IS MIXED WITH WATER, IT FORMS FREE ALKALI. THIS FREE ALKALI WILL CAUSE OIL-BASED PAINTS TO BECOME SOAPY SO THAT THEY WILL NOT STICK TO THE SUBSTRATE. RINSE SUBSTRATE THOROUGHLY WITH CLEAN WATER BEFORE PROCEEDING.
    5. NOTE: DETERGENTS THAT CONTAIN SODIUM CARBONATES WILL ALSO PREVENT OIL-BASED PAINTS FROM STICKING TO SUBSTRATE AND SHOULD THEREFORE BE AVOIDED OR THOROUGHLY RINSED. CHECK LABELS FOR INGREDIENTS.
    6. CAUTION: DO NOT MIX AMMONIA WITH CHLORINE BLEACH. A POISONOUS GAS WILL RESULT! For the same reason, do not utilize bleach on bird droppings.

I. Apply a water repellent or water repellant preservative (WRP) to all exterior items that are subject to extreme weather conditions, that are especially dry or that may have been consolidated.
    1. These exterior items include windows, cornices, or other severely peeling or exposed wood features.
    2. See "Preparing a Non-Toxic Water-Repellent Preservative" and "Applying a Water-Repellent Preservative to Wood" for guidance on preparation and application.
    3. It is generally beneficial to apply a water repellent or a water repellent preservative to any unpainted wood that is to be repainted, but especially to exposed exterior wood.

J. Caulk any end grain wood that will be subject to water infiltration and any places where wood trim pieces or door and window frames meet wall surfaces.

K. Wood trim which has been removed, or new pieces to be installed, may be "back-primed," i.e. painted along the end grain for additional moisture-proofing. When transparent finish is required, backprime with spar varnish.

SECTION 060314 – CHEMICALLY REMOVING PAINT FROM WOOD FEATURES

PREFACE

Projects involving paint removal are subject to state and federal laws on lead paint abatement, disposal and use of volatile organic compounds (VOCs). Specified products may not be permitted or appropriate for all locations. Products containing chemicals known to present health or environmental hazards should be used only as a last resort, where permissible, in accordance with manufacturer's directions and government requirements. Test milder formulations for effectiveness before proceeding to stronger alternatives.

PART 1---GENERAL

1.01 SUMMARY

A. This specification provides guidance on removing paint from interior and exterior wood features using chemical methods.
B. Chemical strippers should be used on extremely intricate details that might be scorched by too long of an exposure to the blast from a heat gun. They are also useful as final cleanup after paint removal using one of the thermal methods. Follow manufacturer's instructions.
C. Safety Precautions:
    1. Workers shall wear appropriate clothing to protect themselves against the harmful effects of paint stripping activity. Old paint layers will likely contain lead. Avoid breathing paint dust during removal.
    2. No food or drink shall be allowed near any work station so as to prevent contamination from paint chips, dust or chemical removers which contain lead and other toxic substances.
    3. Protective clothing shall be removed at the end of each day and kept at the site to prevent workers from tracking dust and paint chips to other parts of the site or to their homes.
    4. Wash hands and face often, especially before eating and at the end of the day.
D. See also "Supplemental Guidelines for Removing Paint from Interior and Exterior Wood Surfaces".

1.02 REFERENCES

A. AWI Quality Standard: Comply with applicable requirements of "Architectural Woodwork Quality Standards" 8th Edition (2005), published by the Architectural Woodwork Institute (AWI), except as otherwise indicated.
B. Information on VOC levels in paint removal products is available in "Guide to Choosing Paint Stripping Products: Safety Precautions" (May 2014), published by the California Department of Public Health, Hazard Evaluations System and Information Service

1.03 DEFINITIONS

A. Chemical Methods: as used herein shall apply to the use of commercial chemical paint strippers.
    1. "Do-it-yourself" chemicals available through local paint stores, hardware stores, building supply centers.
    2. Professional, heavy-duty type used by paint removal contractors, generally only available through the manufacturer and/or qualified contractors. May also be available by special order from local paint stores.
B. Chemical paint strippers are divided into solvent-based, caustic-based, and alternative-based strippers.
    1. Solvent-based: Most use methylene chloride to dissolve and swell varnish and/or paint film for removal. Some are water-rinseable.
        a. Liquid: fast working; best used on horizontal surfaces, or for clean-up when using thermal methods.
        b. Semi-paste: good for vertical and overhead surfaces, rounded features, intricate details.
        c. Will soften oil-based paints, lacquers, varnishes and synthetic baked finishes.
        d. Can be used on both hardwoods and softwoods without changing the color of the wood so that the feature can be refinished with a clear finish if desired.
        e. Non-water-rinseable products are safe for use on most water-based wood glues.
        f. Before refinishing, surface must be completely cleaned of stripper residue, but neutralization of the surface is not required.
        g. Benzol is a highly toxic and highly flammable solvent often used in the past in formulating solvent-based paint and varnish removers. Due to the hazard, it poses, it is no longer recommended for use.
    2. Caustic-based: Use sodium hydroxide, and to a lesser extent potassium hydroxide, to decompose the binder in the coating. Proprietary products are mostly for commercial rather than "do-it-yourself" use.
        a. Liquid: used for dip-stripping of shutters, doors, furniture, etc.

b. Semi-paste: basis for most professional proprietary products; good or horizontal, vertical and overhead surfaces, also intricate details.
c. Will work on most types of coatings from oil- based and latex paints to sophisticated epoxy- ester finishes. Check with manufacturer for appropriate usage.
d. Will darken hardwoods so should not be used on features made from oak, walnut, mahogany, and other hardwoods if a clear finish is to be used.
e. Because they are water-rinseable, caustic strippers will likely raise the grain on many woods so extra finish steps, such as sanding, may be required regardless of whether the surface is to be painted or given a clear finish.
f. Caustic strippers will dissolve many types of wood glues--a problem when stripping shutters, wood veneers, plywood, etc.
g. Surface must be neutralized with mild acid wash before refinishing.

3. Alternative-based: Water-based products which use nonflammable, biodegradable active ingredients to soften the paint. Most are water-rinseable, or removed with common household cleaners. Active ingredients include dibasic acid esters. Products are typically in semi-paste form.
   a. Separate formulas for clear finish removal versus paint removal.
   b. Require considerably more time to soften the old finish than either methylene-chloride-based or caustic-based strippers.
   c. Can be used on both hardwoods and softwoods without discoloring the wood.

1.04 DELIVERY, STORAGE AND HANDLING

All chemicals shall be stored in metal cabinets. No cans shall be left open or out of the cabinet overnight.

PART 2---PRODUCTS

2.01 MANUFACTURERS

A. For Chemical Paint Removers:

1. Prosoco
   3741 Greenway Circle,
   Lawrence, Kansas 66046

2. The 3M Company

3. Diedrich Technologies, Inc.
Schenectady, NY
1-800-283-3888
NOTE: Diedrich Technologies paint removers are only available through authorized suppliers and contractors

3. Dumond Chemicals, Inc.
West Chester, PA (corporate office)
1-800-245-1191 or 609-655-7700
info@dumondglobal.com

4. Old Master's
Orange City, IA
51041
1-800-747-3436 or
712-737-3436

5. Savogran Company
Norwood, MA
1-800-225-9872

6. W. M. Barr & Co.
Memphis, TN
1-800-398-3892

B. For Fumed Silica:
1. Evonik (Aerosil)
2. Cabot Corporation (Cab-o-sil)
3. Dow Corning (Wacker Chemie)
4. OCI (Konasil)

2.02 MATERIALS

NOTE: Chemical products are sometimes sold under a common name. This usually means that the substance is not as pure as the same chemical sold under its chemical name. The grade of purity of common name substances, however, is usually adequate for stain removal work, and these products should be purchased when available, as they tend to be less expensive. Common names are indicated below by an asterisk (*).

A. Paint removers such as any of the following:
1. Paint Removers with low or no VOCs:

a. 10101 Safest Stripper Paint And Varnish Remover (alternative-based, the 3M Company)
b. Envirestrip Environmental Paint Remover (alternative-based, Diedrich Technologies, Inc.)
c. Enviro Klean Safety Peel 1 (alternative-based, ProSoCo, Inc.)
d. Smart Strip (alternative-based, Dumond Chemicals, Inc.)

NOTE: methylene chloride-free products will require longer dwell times on surfaces than that required for products that contain methylene chloride as their main active ingredient.

-OR-

2. Paint removers with intermediate levels of VOCs:
    a. Peel Away 1 (caustic-based, Dumond Chemicals, Inc.)
    b. Peel Away 7 (solvent-based, Dumond Chemicals, Inc.)
    c. Biodegradable Strypeeze (alternative-based, Savogran Company)

-OR-

3. "Last Resort" paint removers (products that have been traditionally used but have high VOCs):
    a. Original Semi-paste Strypeeze (solvent-based, Savogran Company)
    b. Klean Strip Premium Stripper and Premium Sprayable Stripper (W. M. Barr & Co.)
    c. TM-4 Heavy Duty Remover (solvent-based, Old Master's)
    d. 505 Special Coatings Stripper (solvent-based, Diedrich Technologies, Inc.)

    NOTE: The above four products contain methylene chloride, a known carcinogen. Methylene chloride is banned in some states such as California. Regulatory information as well as alternative or equivalent chemicals may be requested from the Environmental Protection Agency (EPA) Regional Office and/or the State Office of Environmental Quality.
    e. 606 Multi-Layer Paint Remover (caustic-based, Diedrich Technologies, Inc.)

B. Plastic sheeting

C. Cornstarch or fumed silica such as "Cab-o-sil" (Samuel Cabot, Inc.), or approved equal.
    1. Used to thicken chemicals so they will adhere to vertical surfaces and ceilings.
    2. Fumed silica is also used as a filler in epoxy repairs.
    3. Available from grocery store.

D. Denatured alcohol (to remove last traces of chemical residue):
    1. Other chemical or common names include Methylated spirit*.
    2. Potential hazards: TOXIC AND FLAMMABLE.
    3. Available from hardware store, paint store or printer's supply distributor.
    4. Denatured alcohol should be a satisfactory substitute for ethyl alcohol for stain removing purposes.

E. For caustic-based paint strippers, neutralizer as recommended by paint stripper manufacturer, to return surface to neutral pH prior to refinishing.

F. Steel wool, cheese cloth, or other cloths for final clean-up.

G. Phenolphthalein: Used to test pH of a surface after stripping with alkaline chemicals. Available at some drug stores or chemical supply houses

2.03 EQUIPMENT

A. Steel wool, scrapers and small picks to remove sludge.
B. Metal containers such as old coffee cans to dispose of sludge.
C. Putty knives and paint scrapers (of different shapes and flexibility).
D. Natural bristle brushes or plastic spatulas as recommended by paint stripper manufacturer to apply stripper.
E. Duct tape.
F. Spray equipment (only if recommended or provided by manufacturer).

PART 3---EXECUTION

3.01 EXAMINATION

A. One of the main reasons for paint failure is excess moisture, both from internal and external sources. Before work is begun on removing the existing paint film or otherwise preparing the surface, all flashing and gutters and downspouts shall be inspected and repaired or replaced as required. Make provisions as required for removing excess moisture from areas of high humidity.
B. All wood elements shall be carefully inspected for rot and, if deteriorated, marked for later replacement, after the paint has been removed.

3.02 PREPARATION

A. Protection
   1. General: Comply with recommendations of manufacturers of paint strippers for protecting surrounding building surfaces against damage from exposure to their products.
   2. Protect adjacent surfaces, including grass, shrubs and trees with paper, drop cloths and other means. Items not painted which are in contact with or adjacent to painted surfaces shall be removed or protected prior to surface preparation and painting operations.
   3. All waste material shall be collected at the end of each work day and disposed of in a manner consistent with local environmental regulations. It is considered Hazardous Waste.
   4. Work area shall be sealed to prevent the spread of paint dust and debris beyond the work site.
   5. All rags shall be disposed of nightly and removed from the building.
   6. Adequate ventilation should be provided in each area where solvents and strippers are used.
   7. A fully charged fire extinguisher suitable for solvent fires shall be kept in each area where work is going on.
   8. Contractor shall provide multiple fans with high CFM to move fumes out of the building and away from areas where work is being done.
   9. Compressor motors, heat lamps, etc., must be of explosion proof type.
   10. No spraying of solvents or strippers permitted unless specifically allowed by the manufacturer of the product being used.
   11. Do not operate a building's central heating system while stripping interior wood features using chemicals, or for several days afterwards. Chloride compounds in the vapors of these removers can combine with the combustion air and move into the furnace-burner compartment of the heating system. Chemical reactions occur with the flue gasses which create highly corrosive acids which can condense on the heat exchanger, vent piping, etc. Once started, the corrosion created by this acid, cannot be stopped.
   12. After paint removal is complete, all areas around the site shall be cleaned of all paint dust and debris, and such debris shall be properly disposed of in a manner consistent with local environmental regulations. Vacuums used to clean up dust shall be equipped with High Efficiency Particulate Air (HEPA) filters.

B. Surface Preparation: Use scrapers of a variety of sizes and shapes, whose edges have been rounded, to remove loose paint before removal using chemicals.

3.03 ERECTION, INSTALLATION, APPLICATION

NOTE: WORK IN WELL-VENTILATED AREA TO AVOID THE INHALATION OF TOXIC FUMES.

A. Lay the chemicals onto the surface in the manner and amount recommended by the manufacturer.
B. Allow to sit or "dwell" according to the manufacturer's instructions. If required, cover with plastic wrap.
C. Remove the sludge using scrappers and steel wool. A second application may be required on those areas where paint is especially thick and/or the detail is intricate.
D. After removal has been completed, rub all surfaces down with denatured alcohol or water (for water-rinseable strippers only) to remove all traces of chemical residue.
    1. For solvent-based strippers:
        a. Most solvent-based chemicals also contain wax to help retard evaporation during the dwell period. Unless completely removed, this wax will inhibit the performance of the new finish.
        b. Thoroughly rub all surfaces, and especially deep crevices, with denatured alcohol to remove all traces of remover. Mineral spirits will work as well, but it may also leave a somewhat oily residue.
    2. For caustic-based strippers:
        a. Carefully and completely neutralize feature as directed by manufacturer to return surfaces to a neutral pH.
        b. To test whether all chemicals have been removed dissolve a 2" piece of phenolphthalein in denatured alcohol.
        c. Brush the solution onto the surface. If it turns a shade from pink to magenta, there is still chemical residue.
        d. Treat the surface with additional neutralizer and continue testing until there is no color change in the phenolphthalein solution. This test will work with any alkaline product.
        e. Testing the damp surface with litmus paper until a pH level of 7 is achieved will also work if phenolphthalein is not available.
    3. For alternative-based strippers: These products contain neither waxes nor strong alkalis so clean-up is simplified. Follow manufacturer's instructions for removal or residue.
E. For guidance on repainting or refinishing wood features, see:
    1. "Primers and Paints for Wood"
    2. "Surface Preparation for Painting Wood"
    3. "Exterior Painting"

3.04 ADJUSTING/CLEANING

A. Upon completion of this work, all floors, walls and other adjacent surfaces that are stained, marred, or otherwise damaged by work shall be cleaned and repaired and all work and the adjacent areas shall be left in a clean and orderly condition.
B. All completed work shall be adequately protected from damage by subsequent building operations and the effects of weather. Protection shall be by methods recommended by the manufacturer of installed materials and as approved by the Architect.

SECTION 060315 – THERMAL METHODS FOR REMOVING PAINT FROM WOOD FEATURES

PREFACE

Paint may contain lead, and surfaces should be tested for lead content in advance of work. If the test is positive and you are not EPA-certified to handle lead-abatement tasks it is illegal for you to perform further work. Regulations provided by the EPA Regional Office and/or the State Office of Environmental Quality concerning the handling of lead-based paint must be followed. The regulations limiting lead in coatings may be even more stringent in certain localities. You need to properly research pertinent standards before utilizing any such product. Regulatory information as well as recommendations for alternative or equivalent chemicals may be requested from the Environmental Protection Agency (EPA) Regional Office and/or the State Office of Environmental Quality. Paint removal using thermal methods can release lead fumes into the air, and inhalation of that vapor can cause lead poisoning through inhalation. Children are particularly susceptible to very low doses. Higher-temperature paint removal methods present greater lead fume risks, so the lowest temperature method possible should be used.

PART 1---GENERAL

1.01 SUMMARY

A. This specification provides guidance on removing paint from interior and exterior wood features using thermal methods.
B. In general, high-heat methods should not be used in a way so as to come into contact with window glass, if at all possible.
    1. Glass should be removed to a safe storage place to be reinstalled at a later date.
    2. If the glass is not to be removed, it needs to be protected from sudden temperature changes, which can cause breakage
    3. Use a piece of gypsum board wrapped in aluminum foil to protect the glass from rapid temperature changes seen when using high-heat methods.
C. Safety Precautions:
    1. Old paint layers will likely contain lead and you must test for its presence using a certified method (test swab) or a laboratory. If there is lead, you must be EPA-certified to do this work. You must use the appropriate safety precautions and Personal protective Equipment (PPE) such as gloves, goggles and respirators rated for this work. You must use proper ventilation and residue disposal procedures.
    2. No food or drink shall be allowed near any work station so as to prevent contamination from paint, paint chips or dust which could contain lead and other toxic substances.

3. Protective clothing shall be removed at the end of each day and kept at the site to prevent workers from tracking dust and paint chips to other parts of the site or to their homes.
4. Wash hands and face often, especially before eating and at the end of the day.

D. See also "Supplemental Guidelines for Removing Paint from Interior and Exterior Wood Surfaces".

1.02 REFERENCES

AWI Quality Standard: Comply with applicable requirements of "Architectural Woodwork Quality Standards" published by the Architectural Woodwork Institute.

1.03 DEFINITIONS

A. Thermal Methods can be classified as:
   1. High heat (e.g. the use of a heat gun).

   -OR-

   2. Lower heat (e.g. the use of special quartz lamp equipment or a steam generation device).
   3. In all circumstances, the lowest heat needed to satisfactorily complete the work should be used, as lower temperatures pose lower risks for spreading hazardous substances.

B. Open-flame blowtorches are extremely hazardous high-heat devices. CAUTION: OPEN-FLAME BLOWTORCHES SHOULD NOT BE USED. THEY CAN VAPORIZE AND DISTRIBUTE HAZARDOUS PAINT CHEMICAL FUMES INSTANTLY. THEY CAN ALSO CAUSE A SEVERE JOBSITE FIRE.

PART 2---PRODUCTS

2.01 MANUFACTURERS*

A. Master Appliance Corp. (HG-201A Heat Gun), Racine, WI
B. Eco-Strip (Speedheater IR Paint Remover Model 1100-15)
C. McCulloch Steam (MC1275 Heavy Steam Cleaner), Andover, KS

*Contractor to follow manufacturers' instructions for safe operation of equipment.

2.02 EQUIPMENT

A. Electric heat gun such as the "HG-201A Heat Gun" (Master Appliance Company) or approved equal.
    1. Heavy duty heat gun with metal case.
    2. Operating temperature between 200 to 300 degrees Fahrenheit (the traditional higher-heat HG-501A Heat Gun operates at 500 to 700 degrees Fahrenheit).
    3. The heat gun heats a small area.
    4. CAUTION: Higher-temperature models can ignite dust, birds' nests, or other debris within a wall cavity or behind a cornice or soffit (and high-temperature dust can smolder and ignite hours later once the work crew has gone home)
    5. CAUTION: Higher-temperature heat gun models can easily vaporize chemicals in paint, including lead, making them easy to inhale. Extreme caution must be taken when using heat guns, and Personal Protection Equipment (PPE), as described in Section 1.01 C. above, must be worn.
    6. A heat gun's heating elements can easily be damaged or wear out. Therefore, replacement elements should be kept on hand.
    7. Power Supply: High-temperature heat guns draw approximately 15 amps of power. Each work station is to be provided with its own temporary power supply so as not to overload other circuits.
    8. Extension Cords: Proper, heavy-duty extension cords are required, and should be kept to a minimum length. Connections at the end of a heat gun's cord or an extension cord should be checked regularly during heavy use and monitored for large amounts of heat build-up accompanied by softening of the plug-ends.

B. Infrared Quartz Heater such as "Speedheater IR Paint Remover Model 1100-15" (Eco-Strip) or approved equal.
    1. Screened cage unit with cool thermoplastic handle
    2. Operating temperature between 380 to 580 degrees Fahrenheit (manufacturer instructions indicate heating surface to a maximum of 275 degrees Fahrenheit).
    3. The Speedheater heats paint in an area confined beneath its cage, making paint soft in 20 to 60 seconds. The paint is then removed with a scraper (see 2.02 D, below).
    4. Spare quartz heating elements should be kept on hand for repairs as the heating elements may break if the heater is dropped.
    5. Power supply: These devices draw approximately 9 amps of power. Each work station should be provided with its own temporary power supply so as not to overload other circuits. The device by this manufacturer is UL listed, some duplicate products by others are not. Use caution when choosing.
    6. Extension Cords: Proper, heavy-duty extension cords are required, and should be kept to a minimum length Connections at the end of a heat gun's cord or an extension cord should be checked regularly during heavy use and monitored for large amounts of heat build-up accompanied by softening of the plug-ends.

C. Steam Generation Device such as the "MC1275 Heavy Steam Cleaner" (McCulloch Steam) or approved equal.

1. This device is intended as a steam-cleaning setup, and comes with multiple attachments.
2. Operating temperature no greater than 212 degrees Fahrenheit.
3. The steam softens the paint film so it can be scraped away at a controlled temperature well below that which would release lead and most chemical decomposition fumes. It reduces the risk of fire. Its use lowers residual disposal costs (in comparison to another method, chemical paint removal) and risk because very large pieces are removed, not small dust-particle sized ones. It raises the moisture content of the wood several percent, but this should evaporate within 24 hours down to nearly the same as it was before the stripping. The method works best on a vertical surface that allows water to run off so the area below the work should be tarped and protected because of this.
4. Although the device is relatively foolproof, users should be aware that steam burns are quite dangerous, making appropriate PPE with heat-resistant gloves with waterproof coating an absolute must.
5. Power supply: This device draws approximately 12.5 amps of power. It should be provided with its own power supply so as not to overload other circuits. This piece of equipment should only be used with a circuit protected by a ground-fault interruption device.
6. Extension Cords: Proper, heavy-duty extension cords are required, and should be kept to a minimum length. Connections at the end of a heat gun's cord or an extension cord should be checked regularly during heavy use and monitored for large amounts of heat build-up accompanied by softening of the plug-ends.
7. Because of the mixture of water and electricity in this application, care should be taken to keep all cords out of the water runoff to prevent inadvertent injury.

D. Have available a variety of putty knives and paint scrapers of different shapes and flexibility, e.g. a glazer's chisel, a 5-in-1 tool, a double-edged blade scraper and three-corner triangular scraper.
    1. Scrapers and putty knives do not necessarily need to be sharp.
    2. Corners of the tool should be ground to a rounded shape to prevent gouging wood surfaces.

PART 3---EXECUTION

3.01 EXAMINATION

A. One of the main reasons for paint failure on buildings is excess moisture, both from internal and external sources.
B. Before removing the existing paint film or otherwise preparing the surface, all flashing, gutters and downspouts shall be inspected and repaired or replaced as required.
C. Make provisions as required for removing excess moisture from areas of high humidity, or damage will soon return.
D. All wood elements on a wooden surface to be stripped shall be carefully inspected for rot and, if deteriorated, marked for replacement after the paint has been removed.
E. If access can be gained, cavities behind cornices, soffits, etc. should be checked for birds' nests and debris.

3.02 PREPARATION

Protection:

A. Protect adjacent surfaces, including grass, shrubs and trees with paper, drop cloths and other means.
B. Items not painted which are in contact with or adjacent to painted surfaces shall be removed or protected prior to surface preparation and painting operations.
C. All waste material shall be collected at the end of each work day and disposed of in a manner consistent with local environmental regulations. It is to be considered Hazardous Waste.
D. Work area shall be sealed off from other areas to prevent the spread of paint dust and debris beyond the work site.
E. After paint removal is complete, all areas around the site shall be cleaned of all paint dust and debris, and such debris shall be properly disposed of in a manner consistent with local environmental regulations. Vacuums used to clean up dust shall be equipped with High Efficiency Particulate Air (HEPA) filters.
F. When using thermal methods, a fire extinguisher should be readily accessible.
G. Halt thermal removal work several hours before the day's work is completed and the job site is vacated so that smoldering fires can be detected.

3.03 ERECTION, INSTALLATION, APPLICATION

A. Any of these methods (heat gun, infrared quartz heater, or steam generator) will work on both large and small areas, including smaller, narrow or curved surfaces, more intricate details or moldings, small window sash parts such as the sash runs, stops, parting bead, etc., or solid wooden elements.

B. Place the chosen thermal device over area to be stripped and heat the paint until it begins to soften and wrinkle. Do not let paint bubble (unless you are using the steam generator device).
C. Using a scraper (whose corners have been rounded as described in 2.02 D above), scrape and remove paint. With practice, you should be able to remove the paint in long ribbons, which is desirable for reducing disposal and exposure issues.
D. To remove the last traces of paint, you may choose to go over surfaces with a liquid paint remover (see "Section 060314 - Chemically Removing Paint from Wood Features"), or by sanding (using proper lead and hazardous materials protection and disposal techniques, as required).
E. See also:
    1. "Surface Preparation for Painting Wood"

3.04 ADJUSTING/CLEANING

Upon completion of this work, the following standards should be met:

A. All floors, walls and other adjacent surfaces that are stained, marred, or otherwise damaged by work shall be cleaned and repaired.
B. All work and the adjacent areas shall be left in a clean and orderly condition.
C. All completed work shall be adequately protected from damage by subsequent building operations and effects of weather.
D. Protection shall be by methods recommended by the manufacturer of installed materials and as approved by the Architect.

SECTION 060616 – SUPPLEMENTAL GUIDELINES FOR REMOVING PAINT FROM INTERIOR AND EXTERIOR WOOD SURFACES

This standard identifies the causes of paint failure on wood surfaces and provides basic guidelines for deciding to what extent deteriorated paint layers should be removed. This procedure should be used in conjunction with "Chemically Removing Paint from Wood Features", and "Thermal Methods for Removing Paint from Wood Features".

General

- Exterior surfaces are painted both for aesthetics and for protection. Paint protects the wood substrate from ultraviolet degradation due to sunlight exposure and rotting due to excess moisture.
- Interior wood surfaces are usually painted for decorative reasons rather than for protection.
- Causes for premature paint failure:
    - Excess moisture in wood causes the wood to swell, breaking the bond between the wood and the paint.
    - Poor surface preparation interferes with the bond between the new paint layer(s) and the substrate.
    - The wrong type of paint used in the wrong way and/or in the wrong place.

Types of Paint Failure

Peeling/Flaking:

Paint may peel for a number of reasons:

- When applied over damp wood, (usually only a problem when water blasting has been used to remove loose paint)
- If painting was begun too soon after heavy rains.
    - NOTE: USE A MOISTURE METER TO DETERMINE THE AMOUNT OF MOISTURE IN THE WOOD. MAXIMUM MOISTURE CONTENT IS 14%.
    - When excessive moisture inside the wall migrates to the outside. The moisture may come from poorly vented bathrooms, kitchens, and laundries, or leaky gutters and flashing, or broken plumbing; or lack of an adequate vapor barrier. When applied to a dirty or greasy surface. The paint will not adhere and will cause intercoat peeling. The new paint film will simply peel off leaving the bottom paint layers intact. This is especially a problem:
    - under roof eaves and other protected areas not readily washed by rain.
    - When sanding it.
    - When an incompatible top coat is used.
    - When the top coat is applied more than two weeks after the surface was painted with an oil-based primer. A soap-like material forms on the surface of the primer which needs to scrubbed off with detergent and water before the top coat is applied. If the surface is not scrubbed clean, the top coat will peel.

- If the existing thickness of paint layers has reached or exceeded 16 mils and additional layers of paint have been added. Paint film thickness at 16 mils or more is said to have reached its saturation point. Additional layers of paint cause peeling for a number of reasons:
    - The thick paint layers are less permeable to water vapor. Since the moisture cannot evaporate, pressure builds up behind the paint and peeling or blisters result.
    - The individual layers of paint can no longer expand and contract at the same rate and the older, more brittle layers fail resulting in peeling and cracking.
- When exterior wooden elements have exposed end grain. Water absorbed in these areas causes the wood to swell, which loosens the bond between the wood and the paint.
    - Susceptible areas include the ends of clapboard where they meet door and window trim or corner boards, butt and miter joints of clapboard and other trim pieces, and porch floor boards.
- When water becomes trapped inside exterior hollow wooden elements such as columns or built-up fence newels, and adequate ventilation is not provided. Water vapor trapped inside can condense and settle at the base of the element, creating ideal conditions for rot.
- When the surface has not been adequately washed. This is especially a problem if latex paint is applied over calcimine paint which is water soluble.
- When protected areas are not readily washed by rain, causing dirt to accumulate on the surface. The dirt may have a tendency to attract and hold moisture against the building.
    - The prolonged presence of moisture, combined with the lack of sunlight, can cause the top layer of paint to expand and contract more frequently than the lower layers, often resulting in a breaking of the bond between the paint layers and the wood substrate.
    - Protected areas to watch include eaves, soffits, tops of walls, or areas protected by trees and other vegetation.
- If the species of wood used in construction is not suited dimensionally to provide the least amount of stress on the paint film, given the expansion and contraction rates associated with normal changes in relative humidity. For example, edge-grain, or quarter-sawn, softwoods are more dimensionally stable than flat sawn boards, warping and shrinking less. This places less stress on the paint film, thereby reducing the likelihood of cracking and peeling.

Blisters:

Blisters may occur for several reasons:

- If the paint was applied in direct sunlight. The paint film forms a skin before the thinners of the paint have had a chance to evaporate and a blister forms. Usually a sound layer of paint is visible when the blister is split open.
- When paint has reached its saturation point as described above, or when paint has been applied to a wet surface. Usually bare wood is visible when the blister is split open.
- If a primer containing zinc oxide, or a finish coat containing zinc oxide without a proper prime coat is used. Zinc oxide is hydrophilic, meaning it has a strong affinity for water and will readily absorb moisture.

Crazing and Cracking:

Crazing and cracking usually occur:

- When old, thick layers of paint can no longer expand and contract at the same rate as the wood substrate. Initially, only the top layers are affected. However, as water gets into these fine, hairline cracks, they eventually deepen and widen to form major cracks.

Alligatoring:

Alligatoring is an advanced stage of cracking where the deteriorated paint film takes on the appearance of alligator skin. It may occur:

- When a top coat is applied over a glossy paint surface that has not first been roughened to provide a proper "tooth" for the new paint film.

Wrinkling:

Wrinkling is when the top layer of paint moves, or dries, while the paint underneath is also still drying, and also still moving, but at a different rate. This may occur:

- When the top coat is applied too thickly or not fully brushed out, allowing the top of the paint film to dry before the bottom of the film dries.
- When the second coat is applied before the first coat has had a chance to dry.
- If the paint is applied in hotter weather than the manufacturer recommends. High temperatures cause the top of the paint film to dry too quickly, before the bottom of the film has had a chance to dry.

Mildew:

Mildew is likely to occur:

- On damp paint films.
- On crazed, cracked or peeling paint surfaces. Paint layers that are crazed and cracked are cracks.

Note: Painting over mildew without first killing it will not solve the problem. Mildew will just grow through the new paint. A sunny South or West facade is no guarantee that mildew will not grow.

Deciding When and How Much Paint to Remove

General:

It is important when making the decision to remove paint to determine why the paint is to be removed, because to do so is a time consuming and expensive job. (If the decision is made to remove all of the paint, samples of the existing paint layers should be taken to document and identify the paint colors used

throughout the history of the building. A section of the existing paint film, located in an inconspicuous area, should be left alone and covered to allow for future study.)

- Paint should be removed when it has built up to the point of obscuring decorative details.
- Selective paint removal is also often done to expose a previous decorative finish such as graining or stenciling, or to restore a varnished or shellacked finish.
- The finish color and gloss should be consistent with the original finish treatment. Do not clear finish historic woodwork that was originally painted. Match new paint to historic paint color and gloss level as identified by qualified architectural conservator.

Peeling/Flaking:

- For wholesale peeling and/or paint which has reached its saturation point:
    - Remove all of the paint before repainting.
- For localized paint failure:
    - Remove only the affected layers of paint.
    - Sand the edges of the sound paint to provide a smooth transition between the old and the new.
    - Spot prime the area and repaint as required and as described in procedure "Epoxy Repair For Deterioration And Decay In Wooden Members", "Surface Preparation For Painting Wood" and "Exterior Painting".

Blisters:

For solvent blisters, or those where sound layers of paint are still visible under the blister:

- Remove only the failed layers of paint. It is usually not necessary to remove paint to the bare wood.
- Spot prime and repaint as required and as described in procedure "Epoxy Repair For Deterioration And Decay In Wooden Members", "Surface Preparation For Painting Wood" and "Exterior Painting".

For localized water blisters:

- Treat as for solvent blisters above if the surrounding paint is sound.
- For localized water blisters in conjunction with massive peeling of thick layers of paint:
    - Remove all of the paint.
    - Prime and repaint as required and as described in procedure "Epoxy Repair For Deterioration And Decay In Wooden Members", "Surface Preparation For Painting Wood" and "Exterior Painting".

Cracking and crazing:

- For surface crazing:
    - Sand the paint film only as necessary to remove the crazed layers of paint.
    - Repainting may or may not be necessary.
- For cracking that reveals bare wood or a dark varnished or shellacked surface:

  - Completely remove all paint.
  - Prime and repaint as required and as described in procedure "Epoxy Repair For Deterioration And Decay In Wooden Members", "Surface Preparation For Painting Wood" and "Exterior Painting".

Wrinkling:

- For wrinkles in paint surfaces:
  - Sand the surface to the next unwrinkled layer.
  - Repaint as required and as described in procedure "Epoxy Repair For Deterioration And Decay In Wooden Members", "Surface Preparation For Painting Wood" and "Exterior Painting".

Alligatored:

- For paint that has alligatored to form deep cracks:
  - Completely remove all of the paint.

Prime and repaint as required and as described in procedure "Epoxy Repair For Deterioration And Decay In Wooden Members", "Surface Preparation For Painting Wood" and "Exterior Painting".

Mildew:

- For mildew growth:
  - Wash with a solution of bleach to kill the mildew. If the surface is also dirty, adding TSP if allowed by applicable law/regulation, or use appropriate substitute cleaner to the bleach solution will aid in the cleaning process.
- For mildew associated with cracks in the paint film or other type of paint deterioration:
  - Treat the paint film as directed above for complete paint removal and repaint as required and as described in procedure "Epoxy Repair For Deterioration And Decay In Wooden Members", "Surface Preparation For Painting Wood" and "Exterior Painting".

Paint Removal Techniques

- Paint removal is achieved through a variety of means:
  - Thermal methods, such as heat plates and heat guns; See procedure 06400-09-R, "Removing Paint from Wood Features Using Thermal Methods" for guidance.
  - Abrasive methods, such as by hand or with an orbital sander; See procedure "Surface Preparation For Painting Wood", "Procedures for Painting Wood Features" for guidance.
  - Chemical methods; See procedure "Chemically Removing Paint from Wood Features", "Chemically Removing Paint from Wood Features" for guidance.
  - Applications of the above methods should be reviewed in accordance with the Secretary of the Interior's "Standards for Rehabilitation Projects."

SECTION 060317– REPLACING WOOD TREADS AND RISERS

PART 1---GENERAL

1.01 SUMMARY

A. This procedure includes guidance on removing and replacing damaged wood treads and/or risers.
B. Wood stair treads and risers are very susceptible to damage because they are constantly exposed to wear.
C. Exterior stairs are even more susceptible to damage because of exposure to the weather. Open joints and cupping of treads and risers may result from inadequate ventilation, preventing the sufficient evaporation of moisture.

1.02 DEFINITIONS

A. Stair/Ramp Covering - Composed of the treads, risers, cove molding, nosing (molded or attached), and nosing return. The treads and risers can be connected by a butt joint, a rabbet joint, or a tongue-and groove joint.

1.03 SYSTEM DESCRIPTION

A. A wood stair covering in proper condition is free from decay and is structurally sound.
    1. The treads and newel must be rigid, the connections between all parts must be tight and sound, and all trim pieces must be present, undamaged, and adhered properly.
    2. The treads should have a slight descending pitch to ensure drainage.
    3. The treads should have an integral front nosing.
    4. The underside of treads should have a routed drip so that water cannot enter the connection between tread and riser.
    5. The construction should have proper ventilation underneath to prevent cupping.

PART 2---PRODUCTS

2.01 MATERIALS

A. Lumber for replacement risers and treads - treated with wood preservative
B. Hardwood for wedges
C. Wood scrap, same as tread (for assistance in placing wedge)
D. Nails
E. Caulk
F. Paint
G. Wood glue

2.02 EQUIPMENT

A. Hack saw
B. Pry bar and putty knives for trim removal
C. Utility saw
D. Pencil, square, and straight edge for marking
E. Hammer and block
F. Chisel
G. Rooter
H. Saw (for wood cuts)
I. Drill
J. Keyhole saw
K. Screwdriver
L. Knife to cut wedge excess

PART 3---EXECUTION

3.01 EXAMINATION

A. Inspect for paint that is worn, chipped, peeling, blistered, or flaking.
    1. A proper paint seal is imperative to the protection of the wood from decay. If paint is peeling, decay may already be underway.
    2. Probe the wood with an ice pick to determine the existence of rot.
B. Inspect for wear in the surface such as chips or gouges. If the wear is minimal, holes can be filled and the surface restored.
C. Inspect for the signs of insect infestation such as mold, fungus, bore holes, and sawdust piles.

3.02 PREPARATION

A. Surface Preparation:
    1. Waterproof or treat wood with preservative and back prime all pieces before installation paying particular attention to the end grain.
    2. To replace damaged wood treads and risers, match existing depth.
    3. Reproduce the joint technique of the original; butt joints are easier to repair but dadoed joints are stronger and resist movement.

3.03 ERECTION, INSTALLATION, APPLICATION

A. If underside of tread is salvageable:
    1. Carefully remove tread and use underside as new top surface.
        a. If tread and riser are butt jointed:
            i. Pry off nosing return and cove molding return.
            ii. Remove balusters by sliding them out of slot in tread and pull down from hole in handrail.
            iii. Pry off cove molding from under front of tread and carefully begin prying tread from riser below. Pry only enough to insert utility saw blade.
            iv. Pry tread from riser below and cut nails with saw. Pull tread free from above starting at outside edge.
        b. If tread and riser are dadoed:
            NOTE: THE RISER MUST BE SACRIFICED.
            i. Drill holes at base of riser above tread and cut along joint with saw blade.
            ii. Pull tread free from above by starting at outside edge.
            iii. Cut and properly fit new riser. Glue in new wedge below riser position at inside stringer. Replace riser and toenail into inside stringer from behind.
    2. Turn tread over and mark 45 degree miter for nosing return on outside corner. Measure old baluster position and mark inside new miter line. Cut out miter and baluster positions.
    3. Make angled cut at inner corner at new outside edge to accommodate angle of stringer.
    4. Fit scrap, same width and thickness as tread, into inside stringer. Fit new wedge underneath accordingly and remove scrap.
    5. . With hammer and block, knock tread with glued inner edge into position and nail tread to top of outer stringer.
    6. Replace balusters, nosing return, and cove molding. When replacing nosing return, glue only miter and adjacent surface to allow for expansion between pieces.

B. If underside of tread is NOT salvageable:
    1. Remove nosing return, cove molding, and balusters as above.
    2. Drill starting holes through tread to cut it into thirds. Saw across tread in two places; nick risers, but, do not damage surface of risers.
    3. Remove center portion of tread by driving chisel into tread over riser to break off nosing of tread. Do not damage possible riser tongue. With chisel turned sideways, remove remaining tread section. Remove protruding nails.
    4. On new tread, measure old baluster position and mark inside new miter line. Cut out miter and baluster positions.
    5. Make angled cut at inner corner at new outside edge to accommodate angle of stringer.
    6. Fit scrap, same width and thickness as tread, into inside stringer. Fit new wedge underneath accordingly and remove scrap.
    7. With hammer and block, knock tread with glued inner edge into position and nail tread to top of outer stringer.
    8. Replace balusters, nosing return, and cove molding. When replacing nosing return, glue only miter and adjacent surface to allow for expansion between pieces.

C. If underside of stair is accessible:
    1. Remove wedges from tread/stringer and riser/stringer connections.
    2. Remove screws or nails that connect tread to riser.
    3. With chisel, force riser down from tread. With hammer and block, tap tread back from front.
    4. Cut and fit new tread or riser to match original in size and thickness. Hold tread and riser together temporarily with nail.
    5. Drive vertical wedge in behind riser at stringer. Cut off wedge excess flush with bottom of tread. Remove nail. Drive glue-soaked horizontal wedge in below tread. Chisel off excess wedge flush with stringer.
    6. At 6" from each end, drill pilot holes and drive screws through riser above center of tread.

D. Additional Instructions for Exterior Stairs:
    1. Rout a rounded drip edge into the bottom of the tread so that water will not enter the joint between the tread and the riser below.
    2. Make the tread nosing integral with the tread.
    3. Prime all bare wood, using primer compatible with top coat. For redwood or cedar, use a latex primer containing a dye reactant. Prime edges, ends and both sides.
       NOTE: Treated lumber containing creosote, pentachlorophenol or other oily preservative solutions cannot be painted. Lumber treated with waterborne salts can be painted or stained.
    4. Caulk all joints to seal out moisture.
    5. Apply top coats of paint compatible with prime coat.

3.04 ADJUSTING/CLEANING

A. Shrinking may occur within a year. Repair may involve minor filling and repainting.

SECTION 060318 – SECURING AN EXTERIOR WOODEN BALUSTRADE

PART 1---GENERAL

1.01 SUMMARY

A. This procedure includes guidance on repairing a wooden balustrade, including the handrail, the footrail and the balusters.
B. An exterior wooden balustrade system is particularly susceptible to decay for a number of reasons:
    1. Individual members are usually ornamentally turned or carved, exposing a large degree of end grain in proportion to the size of the member to wear and weather.
    2. The handrail takes all the weight from forces applied to the balustrade. It is usually connected to a column or post with a butt joint which does not allow for the transfer of any load to the column and exposes the end grain to weather; therefore, making this joint highly prone to moisture infiltration and the handrail to decay.
    3. Decay in a baluster typically occurs at the joints, particularly at the footrail if the top surface of the footrail is not sloped to shed water.
    4. Decay may also occur in the footrail if the bottom surface is too close to the ground. If the footrail is not adequately supported, the entire balustrade assembly will sag.

1.02 DEFINITIONS

A. Balustrade - The components consist of the handrail, footrail and balusters. The handrail and footrail are joined at the ends to a column or post. The balusters are vertical members that connect the rails.

1.03 SYSTEM DESCRIPTION

A. A wooden balustrade in proper condition is rigid and free from decay. It is designed with sloping surfaces to repel water and has properly caulked, tight joints.

1.04 MAINTENANCE

A. Periodically (late spring and late fall) inspect and clean surfaces.
B. Check condition of caulking and replace as necessary.
C. Clean with a mild soap and water and scrub with a soft bristle brush. Do not allow cleaning solution to remain on surface for more than 10 minutes.
D. Rinse surface thoroughly with clear water twice. Corners should be scrubbed with a tapered-end hand brush or hand held mop strands.
E. Use sponge along with clean water to rinse. Remove streaks with a damp chamois and water.
F. Remove mildew, moss, fungal growth, and vegetation with a 50/50 mixture liquid bleach and water. Scrub with a natural or nylon bristle brush and rinse thoroughly.

PART 2---PRODUCTS

2.01 MATERIALS

A. Wood screws
B. Galvanized finish nails
C. Replacement baluster
D. Wood dowels
E. Mild soap
F. 5% liquid bleach solution
G. Clean, potable water

2.02 EQUIPMENT

A. Ice pick (for determining the presence of decay)
B. Waste container
C. Corn broom
D. Dust pan
E. Supply of treated rags
F. Wood glue
G. Hammer
H. Screwdriver
I. Drill
J. Chisel for mortising
K. Wood blocking
L. Replacement piece (if needed)
M. Two buckets (for extra solution and rinse)
N. Two sponges (for solution and rinse)
O. Brushes and string mop
P. Supply of dry wiping cloths and chamois
Q. Broom and garden sprayer

PART 3---EXECUTION

3.01 EXAMINATION

A. Regularly inspect for dirt build-up. Cleaning should be done regularly, see Section 1.04 above for maintenance guidelines.
    1. Inspect for paint that is worn, chipped, peeling, blistered, or flaking. A proper paint seal is imperative to the protection of the wood from decay. If paint is peeling, decay may already be underway.
    2. Probe the wood with an ice pick to determine the existence of rot.
    3. Inspect for the signs of biological attack and insect infestation such as mold, fungus, bore holes, and sawdust piles.

3.02 PREPARATION

A. Protection:

1. Mask or cover adjacent surfaces and permanent equipment during repair and maintenance. Coverings must be adhered without adhesive tape or nails. Impervious sheeting that produces condensation shall not be used.
2. Protect landscape work adjacent to or within work area. Protect tree trunks with plank barriers. Tie up spreading shrubs. Protective covering must allow plants to breathe and be removed at end of the work day. Scaffolding legs must be placed away from plants. Plants cannot be pruned without prior approval of historic architect or horticulturist.
3. Scaffolding, ladders, and working platforms shall not be attached in any way to building. If ladder must lean against building, legs shall be covered with fabric so as not to mar surface of building.

3.03 ERECTION, INSTALLATION, APPLICATION

A. Repairing a Handrail - Where the handrail is connected to the column with a butt joint, it may be re-attached and secured in a series of different ways:
    1. If wood is still relatively sound:
        a. Drill pilot holes to avoid splitting the wood when nailing.
        b. Toenail the handrail back in place. Use galvanized finish nails because they are more weather resistant and grip the wood better.
        NOTE: THIS IS THE LEAST EFFECTIVE METHOD OF ATTACHMENT.-
        OR-
    2. If enough wood is present to accept a screw, toe screw the handrail back in place. Use a galvanized, bronze, or stainless steel screw. Countersink it and plug the hole before painting.
    NOTE: THIS METHOD OF REATTACHMENT IS BETTER THAN TOENAILING. THE SCREW HAS THE ABILITY TO DRAW THE MEMBERS TOGETHER AND HOLD THEM THERE.
    -OR-
    3. Install a kneel plate to secure the handrail in place.
        a. Cut a kneel plate from extruded angle metal or bar stock or purchase as a prefabricated corner brace.
        b. Mortise it into the end of the rail.
        c. Position it and screw it in place on the post.
        d. Lower the handrail down over the kneel plate and adhere the kneel plate to the bottom of the rail with a screw.

B. Repairing a Loose Baluster:
NOTE: BALUSTERS ARE USUALLY SECURED BY TOENAILING.
    1. Remove nail and secure with a screw. Countersink screw and plug hole. If baluster can be rotated, it can be secured with a dowel screw (threaded at both ends).
    2. If top and bottom of baluster are the same and baluster bottom is decayed while the top is sound, baluster can be inverted with the appropriate filler to repair the baluster bottom.
    3. If baluster is ornately carved, try using epoxy consolidant.
    NOTE: EPOXY CONSOLIDANT SHOULD BE CONSIDERED WHEN WORKING WITH HISTORIC MATERIALS SINCE EPOXIES ENABLE ONE TO SAVE AS MUCH OF THE ORIGINAL MATERIAL AS POSSIBLE.
    4. If baluster has a square cut end, a replacement can be made for the end only and connected to the existing baluster with a wood dowel and glue.
    5. If baluster must be replaced, use wood of the same species and age as original if possible. Replicate original exactly and install as original was installed.

C. Repairing a Footrail:

1. If footrail is sound, but sagging, it is probably inadequately supported.
    a. Support footrail at least every 4 feet.
    NOTE: Verify historic appearance first. If railing is on a significant elevation, it may not be appropriate to add new support features.
    b. Add properly treated blocking as required. Consult historic architect for appropriate blocking type and size.
2. If footrail must be replaced, mill new piece with a sloped surface to shed water.
    NOTE: MAKE SURE THAT A CLEARANCE OF 3" TO NOT MORE THAN 4" EXISTS BETWEEN FOOTRAIL AND FLOOR.

D. If pieces are completely taken apart, back-prime all end grain surfaces before reinstallation.

E. After all reassembly has been completed and all surfaces have been sanded ready for repainting, caulk all joints with a paintable caulk, i.e., where handrail meets support post, top and bottom of balusters at their connection with handrail and footrail, and where support block of footrail meets the floor.

SECTION 060319– EPOXY REPAIR FOR DETERIORATION AND DECAY IN WOODEN MEMEBERS

PART 1---GENERAL

1.01 SUMMARY

A. This procedure includes guidance on stabilizing decayed wood members with epoxy consolidant and filler.
    1. For reference you may see:
        a. the American Wood Protection Association
        b. John Leeke's Historic Home Works
B. Deterioration and decay in wood results from moisture infiltration, accompanying fungal growth and insect infestation. Failure of paint, caulk and sealant leaves the wood surface underneath it susceptible to these perils.
C. Some sources of moisture may include the original moisture in green wood, rainwater, condensation, ground water, piped water, and water released by water-conducting fungus through the process of decay itself.
D. Epoxy repair may be appropriate if:
    1. the piece to be repaired is historically significant. Epoxy repair makes it possible to retain most of an original component by selectively repairing only the damaged area.
    2. if the piece is decorative and replacement would be too expensive or seemingly impossible to replicate.
E. Epoxy repair may NOT be appropriate if:
    1. the piece is a structural member. Epoxy has adequate compression strength, but is not the best choice to repair a member in tension. In this case, replacement is usually a better option.
    2. the wood to be repaired is to remain unpainted (as the epoxy is quite different in appearance than wood). In this case, appearances will matter to a greater degree, and the wood should be selectively replaced.
    3. if the area to be repaired is large, as epoxy repair can be expensive.

PART 2---PRODUCTS

2.01 MANUFACTURERS

A. ConServ Epoxy LLC
B. Abatron, Inc.
C. Roux Laboratories

2.02 MATERIALS

A. Epoxy consolidant and epoxy filler, both are multiple part compounds. Purchase by the gallon unless a large amount of epoxying needs to be done. Use one of the following, or approved equal:
    1. "Con Serv (T) Flexible Consolidant 100"
    (ConServ Epoxy LLC): Cures slowly with a 5 to 7 hour application time to allow deep penetration. Complete hardness is achieved in 3 to 6 days.
    2. "Con Serv (T) Flexible Patch 200" (ConServ Epoxy LLC): A four part putty-like filler; Not easy to mix in small amounts; Consistency and hardness are easily controlled with this material.
    NOTE: The above products of ConServ Epoxy LLC are recommended for treatment of thicker wood such as window sills. Because of its slower curing time, it allows for deeper penetration into members.
    3. "Liquidwood-1" Consolidant (Abatron): Solidifies in a short period of time.
    4. "Woodepox-2" Adhesive Paste (Abatron): A two-part paste mix; final hardness is determined by varying the ratio of the two parts. The LiquidWood can be used as a thinner, but this reduces the flexibility of the filler.
    NOTE: The above products of Abatron, Inc., are recommended for use on smaller members such as window sashes where deep penetration of consolidant is not required. The quick drying feature is an advantage for small, but repetitive, jobs. Abatron carries many different types of wood consolidants with varying degrees of penetration.
B. Oil clay that can be purchased from a hobby store (used to keep consolidant from leaking through cracks).
C. Nitrile Rubber Gloves (Abatron)
D. Disposable vinyl gloves: Available from drug store or pharmaceutical supply distributor in 50 count or larger boxes.
    Latex gloves should be avoided because many people have developed a severe allergic reaction to latex. To avoid this problem, look for products labeled as hypoallergenic.

2.03 EQUIPMENT

A. Plastic bottles, like those used for hair dye, to apply the consolidant; having many on hand is recommended. Cleaning of the bottles for reuse is possible.
B. Applicator bottles: Available from drug store and sold for hair dye application usually in 8 fl. oz. size; Also available in bulk from Roux Laboratories (see paragraph 2.01 (a.) above. Roux hair-color applicators lend themselves easily to cleaning and reuse.
C. Rags of different sizes to wipe up spills before epoxy has a chance to harden, small rags are recommended for quick one time uses such as wiping off spouts and caps.
D. Thin wooden sticks, approximately 8" long for scooping out paste and mixing consolidant.
E. Goggles and a respirator for protection from fumes.
F. Putty knives for application of filler
G. Channel lock pliers for opening stuck caps
H. Allen wrench to clean out cap holes
I. Needle nose pliers to pull out hardened epoxy
J. 1/8"x8"x12" Masonite boards for mixing paste filler
K. Carbon dioxide fire extinguisher: Curing epoxy creates heat that may cause fire
L. Rotary saw
M. Air compressor
N. Drill

O. Stiff bristle brushes

PART 3---EXECUTION

3.01 EXAMINATION

A. Detect rot using the "Pick Test":
    1. Insert an ice pick into the wood at a slight angle.
    2. Lift the pick out. If the wood splinters in long pieces, the wood is ok. If the wood snaps where the pick is being lifted, the wood is decayed.
B. When rot is discovered:
    1. Determine the source of moisture infiltration and eliminate it.
        a. If rot is only present on the surface, drying is all that is necessary to stop the spread of decay and kill off any growth.
    2. If source of moisture is unknown, treat the wood with a preservative.
        a. Preservatives are caustic chemicals and should be handled with care.
        b. A particularly dangerous wood preserving chemical used frequently in the past was called pentachlorophenol (a.k.a. penta). It is now a controlled industrial preservative, considered extremely toxic and any use except by specially trained conservators should be avoided at all costs. If you have old stock of this chemical in storage, proper means of disposal should be sought out. CAUTION: THIS CHEMICAL IS CARCINOGENIC AND ITS USE IS BANNED IN MANY STATES.
    3. Preservatives will eliminate fungal growth, but will not restore strength to deteriorated wood material.

3.02 PREPARATION

A. Surface Preparation Always follow the recommendations for use provided by the manufacturer of the filler or consolidant chosen.
    1. Dry affected wood member completely to arrest further decay. Dry in place if possible or remove the member and keep in a cool dry place until dry.
    CAUTION: IF THIS PRECAUTION IS NOT TAKEN, THE EPOXY CAN ACTUALLY TRAP MOISTURE UNDERNEATH IT IN THE WOOD FIBERS AND ACCELERATE THE DECAY PROCESS.
    2. Have all materials at hand before the mixing process begins.
    3. Label all caps and lids so that a cap or lid is not placed on the wrong container or it may remain there permanently.

3.03 ERECTION, INSTALLATION, APPLICATION

CAUTION: AS EPOXIES CURE, HEAT IS PRODUCED. FOR THIS REASON, EPOXIES SHOULD BE USED IN SMALL QUANTITIES TO DETER EXTENSIVE HEAT BUILD-UP. CARE SHOULD BE TAKEN WHEN USING EPOXY ON A HOT DAY. Use caution when disposing of epoxy-covered components such as mixing and application bottles, resin-coated clean-up towels, papers and wood scraps.

A. Repair decayed wood using epoxy wood consolidant. Always follow the recommendations for use provided by the manufacturer of the filler or consolidant chosen.
    1. Drill 1/4" or 3/16" holes in affected wood to receive epoxy consolidant:
        a. Drill holes at an angle and spaced approximately 2" on center in staggered rows. The top of one hole should line up with the bottom of the next hole.
        CAUTION: BE SURE NOT TO DRILL THROUGH THE ENTIRE SURFACE FOR CONSOLIDANT WILL LEAK OUT FROM BEHIND.
        b. Dam any surface cracks with oil clay (this is old-fashioned modeling clay) so that epoxy will not leak.
    2. Remove sawdust and dirt from drilled holes by blowing (by mouth or with the aid of a common drinking straw), vacuuming, or use of stiff bristle brushes.
    3. Following manufacturer's instructions, thoroughly mix the consolidant components.
    4. Using a large plastic syringe or squeeze bottle and tube spout, carefully squirt the consolidant into the pre-drilled holes. Completely saturate the wood, moving from hole to hole refilling until the wood can hold no more. More than one application may be needed to force air out of voids..
    5. Wipe off any excess consolidant or spills and cover the treated area to protect until cured as directed by epoxy manufacturer.
    6. If severed pieces need to be re-attached, glue them in place with a mixture of consolidant and filler, according to the manufacturer's instructions..

B. When the consolidant has cured, fill the voids in the surface with epoxy filler (wood-epoxy putty):
    1. Mix the two part epoxy filler according to manufacturers instructions until consistency of a glazing compound is uniform and compound can be worked with a putty knife.
    2. Apply the filler to the surface:
        a. For large voids, apply filler in 1" thick layers to reduce heat build-up that may undermine repairs.
        b. Build up filler layers slightly above the wood surface to allow for planning and sanding smooth after it has cured.
    3. When the filler has cured, sand or plane the surface smooth.
    4. Apply a wood preservative to the surrounding wood surfaces, prime and paint the entire surface.

SECTION 06110
ROUGH CARPENTRY (BUILDING STRUCTURE)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes miscellaneous lumber for construction, repair, restoration, or replacement of the following:
   1. Framing with dimension lumber.
   2. Wood grounds, nailers, and blocking.
   3. Wood furring.
   4. Wood Sheathing.
   5. Preservative treated lumber and plywood for exterior framing.
   6. Evaluation of and replacement of historic framing.

1.3 DEFINITIONS

A. Rough carpentry includes carpentry work not specified as part of other Sections and generally not exposed, unless otherwise specified.

1.4 SUBMITTALS

A. General: Submit the following:

B. Product data for the following products:
   1. Underlayment.
   2. Nails and connectors.
   3. Air infiltration barrier.
   4. Metal framing anchors.
   5. Construction adhesives.

C. Material certificates for dimensional lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use as well as design values approved by the Board of Review of American Lumber Standards Committee.

D. Wood treatment data as follows including chemical treatment manufacturer's instructions for handling, storing, installation, and finishing of treated material:
   1. For each type of preservative treated wood product include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained, and compliance with applicable standards.
   2. For water-borne treated products include statement that moisture content of treated materials was reduced to levels indicated prior to shipment to project site.
   3. Material test reports from qualified independent testing laboratory indicating and interpreting test results relative to compliance of fire-retardant-treated wood products with requirements indicated.
   4. Warranty of chemical treatment manufacturer for each type of treatment.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.
   1. For lumber and plywood pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.

1.6 PROVISIONS

A. The contract documents including drawings and specifications represent the overall intent of the building’s design and in most cases do not show all components necessary to complete each and every construction assembly included in the project. The contractor shall include in his base price, all elements necessary, where detailed drawings or instructions are not provided, for the complete and finished installation of each and every component required to complete this project.

PART 2 - PRODUCTS

2.1 LUMBER, GENERAL

A. Lumber Standards: Furnish lumber manufactured to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.

B. Inspection Agencies: Inspection agencies and the abbreviations used to reference them with lumber grades and species include the following:
   1. RIS - Redwood Inspection Service.
   2. SPIB - Southern Pine Inspection Bureau.
   3. WCLIB - West Coast Lumber Inspection Bureau.
   4. WWPA - Western Wood Products Association.

C. Grade Stamps: Provide lumber with each piece factory-marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
   1. For exposed lumber furnish pieces with grade stamps applied to ends or back of each piece; or omit grade stamps entirely and provide certificates of grade compliance issued by inspection agency.

D. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.
   1. Provide dressed lumber, S4S, unless otherwise indicated.
   2. Provide seasoned lumber with 19 percent maximum moisture content at time of dressing and shipment for sizes 2 inches or less in nominal thickness, unless otherwise indicated.

2.2 DIMENSION LUMBER

A. For light framing (2 to 4 inches thick, 2 to 4 inches wide) provide the following grade and species:
   1. "Construction" grade.
   2. Any species graded under WWPA or WCLIB rules.
   3. Southern Pine graded under SPIB rules.

B. For structural light framing (2 to 4 inches thick, 2 to 4 inches wide), provide the following grade and species:
   1. "Select Structural" grade.
   2. Same species as indicated for structural framing grade below.

C. For structural framing (2 to 4 inches thick, 5 inches and wider), provide the following grade and species:
   1. "Select Structural" grade.
   2. Douglas Fir-Larch graded under WCLIB or WWPA rules.
   3. Hem-Fir graded under WWPA rules.
   4. Southern Pine graded under SPIB rules.
   5. Redwood graded under RIS rules.

D. For exposed framing lumber provide material complying with the following requirements:
   1. Definition: Exposed framing refers to dimension lumber that is not concealed by other construction and is indicated to receive a stained or natural finish.
   2. Grading: Material hand-selected at factory from lumber of species and grade indicated below that complies with "Appearance" grade requirements of ALSC National Grading Rule; issue inspection certificate of inspection agency for selected material.
      a. Same species and grade as indicated for structural framing.
      b. Hem-Fir, "Select Structural" grade per WWPA rules.
      c. Southern Pine, "Select Structural" grade per SPIB rules.
      d. Redwood, "Clear-All Heart" grade per RIS rules.

2.3 BOARDS

A. Exposed Boards: Where boards will be exposed in the finished work, provide the following:

1. Moisture Content: 19 percent maximum, "S-DRY" or KD-19.
2. Where painted finish is indicated, provide "No. 1 Boards" per SPIB rules, "Select Merchantable Boards" per WCLIB rules, or "No. 2 Common Boards & Better" per WWPA rules.

B. Concealed Boards: Where boards will be concealed by other work, provide lumber of 19 percent maximum moisture content (S-DRY or KD-19) and of following species and grade:

C. Board Sizes: Provide sizes indicated or, if not indicated (for sheathing, subflooring and similar uses), provide 1-inch by 8-inch boards.

2.4 CONSTRUCTION PANELS, GENERAL

A. Construction Panel Standards: Comply with PS 1 "U.S. Product Standard for Construction and Industrial Plywood" for plywood construction panels and, for products not manufactured under PS 1 provisions, with APA PRP-108.

B. Trademark: Furnish construction panels that are each factory-marked with APA trademark evidencing compliance with grade requirements.

2.5 CONCEALED PERFORMANCE-RATED CONSTRUCTION PANELS

A. General: Where construction panels are indicated for the following concealed types of applications, provide APA Performance-Rated Panels complying with requirements designated under each application for grade designation, span rating, exposure durability classification, edge detail (where applicable), and thickness.

B. Combination Subfloor-Underlayment: APA RATED STURD-I-FLOOR.
1. Exposure Durability Classification: EXTERIOR.
2. Span Rating: As required to suit joist spacing indicated.
3. Edge Detail: Square.
4. Edge Detail: Tongue and groove.

C. Wall Sheathing: APA RATED SHEATHING.
1. Exposure Durability Classification: EXTERIOR.
2. Span Rating: As required to suit stud spacing indicated.

2.6 CONSTRUCTION PANELS FOR BACKING

A. Plywood Backing Panels: For mounting electrical or telephone equipment, provide fire-retardant-treated plywood panels with grade designation, APA C-D PLUGGED EXPOSURE 1, in thickness indicated, or, if not otherwise indicated, not less than 15/32 inch.

2.7 AIR INFILTRATION BARRIER

A. Asphalt-saturated organic felt complying with ASTM D 226, Type I (No. 15 asphalt felt), unperforated.

B. Polyethylene sheet, 0.0061 inch thick, formed by spinning continuous strands of fine high density polyethylene interconnected fibers and bonding them together by heat and pressure; with a moisture vapor transmission rate of 400 grams/sq. meter/24 hrs. per ASTM E 96, procedure B; flame spread and smoke developed ratings of 5 and 10 per ASTM E 84.

C. Products: Subject to compliance with requirements, provide one of the following:
   1. "Barricade Building Wrap," Simplex Products Division, Anthony Industries, Inc.
   2. "Tyvek Commercial Wrap," Fibers Department, Du Pont Company.

2.8 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
   1. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of AISI Type 304 stainless steel.

B. Nails, Wire, Brads, and Staples: FS FF-N-105.

C. Power Driven Fasteners: National Evaluation Report NER-272.

D. Wood Screws: ANSI B18.6.1.

E. Lag Bolts: ANSI B18.2.1.

F. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and where indicated, flat washers.

2.9 METAL FRAMING ANCHORS

A. General: Provide metal framing anchors of type, size, metal, and finish indicated that comply with requirements specified including the following:
   1. Current Evaluation/Research Reports: Provide products for which model code evaluation/research reports exist that are acceptable to authorities having jurisdiction and that evidence compliance of metal framing anchors for application indicated with the building code in effect for this Project.

   2. Allowable Design Loads: Provide products for which manufacturer publishes allowable design loads that are determined from empirical data or by rational engineering analysis and that are demonstrated by comprehensive testing performed by a qualified independent testing laboratory.

B. Galvanized Steel Sheet: Steel sheet zinc-coated by hot-dip process on continuous lines prior to fabrication to comply with ASTM A 525 for Coating Designation G60 and with ASTM A 446,

Grade A (structural quality); ASTM A 526 (commercial quality); or ASTM A 527 (lock-forming quality); as standard with manufacturer for type of anchor indicated.

1. Use galvanized steel framing anchors for rough carpentry exposed to weather, in ground contact, or in area of high relative humidity, and where indicated.

2.10 PRESERVATIVE WOOD TREATMENT BY PRESSURE PROCESS

A. General: Where lumber or plywood is indicated for exterior component use, it shall be preservative-treated wood or if specified herein to be treated, comply with applicable requirements of AWPA Standards C2 (Lumber) and C9 (Plywood). Mark each treated item with the AWPB or SPIB Quality Mark Requirements.
   1. Do not use chemicals containing chromium or arsenic.
   2. For exposed items indicated to receive stained finish, use chemical formulations that do not bleed through, contain colorants, or otherwise adversely affect finishes.
   3. All treatments shall not be toxic or harmful to humans and shall not be a contaminant to food products.
   4. Treatment shall provide protection against North American Subterranean Termites, Formosan Termites, as well as decay and other insects.
   5. Koppers AWolmanized@ or ANon-Com@ or equal.
   6. Osmose AAdvance Guard@ or equal.

B. Pressure-treat above-ground items with water-borne preservatives to a minimum retention of 0.25 pcf. For interior uses, after treatment, kiln-dry lumber and plywood to a maximum moisture content, respectively, of 19 percent and 15 percent. Treat indicated items and the following:
   1. Wood nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
   2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
   3. Wood framing members less than 18 inches above grade.
   4. Wood floor plates installed over concrete slabs directly in contact with earth.

C. Pressure-treat wood members in contact with the ground or fresh water with water-borne preservatives to a minimum retention of 0.40 pcf.

D. Complete fabrication of treated items prior to treatment, where possible. If cut after treatment, coat cut surfaces to comply with AWPA M4. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

E. All lumber used in exterior applications shall be treated in accordance with section 06110.2.10 regardless whether it is delineated, shown or not shown on the drawings.

2.11 FIRE-RETARDANT-TREATED MATERIALS (FR)

A. General: Where fire-retardant-treated wood is indicated, comply with applicable requirements of AWPA C20 (lumber) and AWPA C27 (plywood). Identify fire-retardant-treated wood with

appropriate classification marking of UL; U.S. Testing; Timber Products Inspection, Inc.; or another testing and inspecting agency acceptable to authorities having jurisdiction.

B. For interior locations, use chemical formulation that produces treated lumber and plywood with the following properties under conditions present after installation:
   1. Bending strength, stiffness, and fastener-holding capacities are not reduced below values published by manufacturer of chemical formulation under elevated temperature and humidity conditions simulating installed conditions when tested by a qualified independent testing agency.
   2. No form of degradation occurs due to acid hydrolysis or other causes related to treatment.
   3. Contact with treated wood does not promote corrosion of metal fasteners.

C. Inspect each piece of treated lumber of plywood after drying and discard damaged or defective pieces.

2.12 EVALUATION OF, AND REPLACEMENT OF HISTORIC FRAMING

A. General: Inspect all exterior elements supported with wood framing including, but not limited to fascia, cornice, copings, etc., for damage beyond repair. Upon determination of sections to be replaced, submit for approval to the THC.
   1. Do not commence with replacement until THC has approved proposed work.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Discard units of material with defects that impair quality of rough carpentry construction and that are too small to use in fabricating rough carpentry with minimum joints or optimum joint arrangement.
   1. Rough Carpentry members to match existing framing member sizes, thickness, and spacings with overlap or butt joints.
   2. Provide corresponding fasteners to develop full strength of framing members and of securing panel attachments.
   3. Set rough carpentry to required levels and lines, with members plumb and true to line and cut and fitted.
   4. Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.
   5. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated.
   6. Use common or galvanized where appropriate wire nails, unless otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.
   7. Use any or all of the listed wood materials for repair or replacement of any damaged or deteriorated rough carpentry to bring back to original condition.

END OF SECTION 06110 - ROUGH CARPENTRY

SECTION 08295 - WOOD DOOR RESTORATION

PART 1 - GENERAL

1.1 SUMMARY:

A. Extent and location of each type of panel wood doors is indicated on drawings and in schedules.

B. Section includes:
1. Restoration and replacement of deteriorated or damaged/missing wood fabric and/or components.
2. Restoration of existing door hardware.
3. Replacement of damaged and missing hardware.
4. Replacement of missing or broken glass.
5. Refinishing

C. Restoration of existing doors is included in this section. Existing doors will be provided to the Contractor/subcontractor by the Owner.
1. Wood doors in the existing building are available as is, where occurring.

1.2 RELATED SECTIONS

A. Include, but not limited to:
2. Section 06031, Historic Wood Repair

1.3 SUBMITTALS:

A. Replication: Doors that are to be accurate replications of extant historic doors
1. Large-scale drawings with full-scale details of all panel mouldings, door frame mouldings
2. Stipulation to wood species and grade.

B. Shop Drawings:
1. Indicate location and size of each door, transom and frame
2. 3/4" scale elevation of each door
3. Full size construction details including those for stiles, rails, panels, and moldings (sticking)
4. Full size details of all frame components
5. Location and extent of hardware cutouts; fire ratings; and finishing requirements
6. Stipulation to wood specie and grade

C. Samples:
1. Wood consolidant.
a. Manufacturers product information including instructions for usage in projects of similar scope.
2. Wood patching compound:

a. Manufacturers product information including instructions for usage in projects of similar scope.
b. Color samples for review during mockup preparation and evaluation.

D. Preconstruction Wood Evaluation Report:
1. Lumber for restoration purposes: refer to 1.3, A below.
a. Provide report prior to initiating any wood dutchman patching operations.
b. Do not proceed with any patching operations prior to Architect approval of lumber for patching/dutchman purposes.

E. Scope of Work Survey (Note: this sub-section to be managed in conjunction with Section 08212 Wood Doors Replication as needed),: AS A PART OF THE BIDDING PROCEDURES, the contractor shall survey the entire building, all designated door locations to develop a graphic survey denoting all the locations for and areas/quantities (square feet, linear feet, etc.) including various operations for:
1. Paint stripping,
2. Replication of components determined to be
a. Intrusive elements (not established to be historic),
b. Deteriorated historically accurate elements
3. Glass and glazing:
a. Replacement of intrusive glass.
b. Reglazing of existing historically accurate glass
4. Hardware:
a. Remove and retain all hardware established as historic hardware.
1) contractor to label all hardware to record extant location; hardware to be reinstalled in these locations.
b. Clean and refinish all historic hardware.
c. Reinstall all hardware established as historic materials.
d. Provide and install new hardware as needed; all new hardware to match the existing in all respects.

5. The architect will provide copies of the elevation drawings for this purpose. The Architect and Contractor will confer with the Windows Restoration Contractor to review and confirm the quantities of the above operations.

F. Qualifications: Restorer qualifications, including past projects.

1.4 QUALITY ASSURANCE:

A. Lumber for existing door restoration purposes:
1. Species: MATCH EXISTING DOORS.
a. Grade: Edge grain, aged and salvaged.
2. Texture: Surfaced (smooth).
3. Lumber for Transparent Finish (Stained or Clear): Solid lumber stock.
4. Lumber for Painted Finish: Solid lumber stock.
5. Free from machine defects, face checks, cracks, and pitch pockets over 1/8 inch in width.
6. Knots: None allowed.
7. Maximum moisture content: 6 percent.
8. Species confirmation:

a. CM/sub-contractor shall procure four (4) samples of extant of wood from source doors which will require replacement; sample to be taken from different locations in the building. These samples shall be submitted to the Center for Wood Anatomy Research, USDA Forest Service, Forest Products Laboratory for verification of species. Written confirmation of this verification shall be submitted to the Owner and Architect prior to proceeding with any borrowed lite assembly restoration or replication work.

b. Center for Wood Anatomy Research
USDA Forest Service, Forest Products Laboratory
One Gifford Pinchot Drive
Madison, Wisconsin 53726-2398

B. Character of wood:
1. All wood used on the project for the purposes of restoration of the existing stile and rail wood door assemblies shall match the existing historic wood in all respects including cut type of lumber, grain character, dimensions, density, color, etc.
2. No wood that does not match the character of the existing shall be used on the project. All wood used on a discreet component shall be custom matched in the field to that specific location and usage in order to achieve the highest degree of match to the extant wood as possible.
3. The Architect shall be the final judge of the correct character of the wood.
4. Obtain report per 1.3, A above and approval by Architect prior to beginning restoration work.

C. Restorer qualifications:
1. Minimum of 20 years experience in work of this section.
2. Successful completion of minimum 5 projects of similar nature and scope within the past 8 years.

D. Mockup: (Coordinate with section 08212.1.3)
1. Size: one complete door and frame/transom assembly.
2. Provide:
a. Wood dutchman/patching restoration process,
b. New/refurbished hardware components in place and operational.
c. New glazing as required.
d. Finishing completed.
3. Locate mockup where directed by Architect.
4. Approved mockup may be incorporated into and remain as part of the finished work.

1.5 PROJECT CONDITIONS:

A. Conditioning: Do not deliver wood materials or proceed with door restoration operations until conditions for temperature and relative humidity have been stabilized and will be maintained in storage and installation areas during remainder of construction period to comply with requirements of the following quality standard applicable to project's geographical location.
1. "Architectural Woodwork Quality Standards" including Section 100-S-3 "Moisture Content" of Architectural Woodwork Institute (AWI).

1.6 PROVISIONS

A. The contract documents including drawings and specifications represent the overall intent of the building's design and in most cases do not show all components necessary to complete each and every construction assembly included in the project. The contractor shall include in his base price, all elements necessary, where detailed drawings or instructions are not provided, for the complete and finished installation of each and every component required to complete this project.

PART 2 - PRODUCTS

2.1 MATERIALS AND COMPONENTS:

A. Exterior Doors: Comply with the following requirements:
   1. Material: use wood to match the existing as directed.
   2. Wood Species of Doors for Transparent Finish: Match existing,
      a. Wood shall match the character of the existing doors in terms of:
         1) species,
         2) graining character,
         3) cut of lumber,
         4) dimensions, thicknesses.
   3. Stile, Rail and Mullion Dimensions: Comply with the following requirements:
      a. Widths: Match the existing.
      b. Thickness: Match the existing.

   4. Raised Panel Characteristics: Comply with the following requirements:
      a. Molding Profile: Match the existing.
      b. Panel Design: Match the existing.
   5. Flat Panel Characteristics: Comply with the following requirements:
      a. Molding Profile: Match the existing.
      b. Panel Design: Match the existing.
      c. Glass for Openings:
         1) At replicated exterior doors with lights: 1/8" or 3/16" tempered clear float glass to match the existing (Glass type FG-1).
         2) At existing exterior doors requiring reglazing: 1/8" or 3/16" tempered clear float glass to match the existing (Glass type FG-1).

2.2 ACCESSORIES:

A. Consolidant: low viscosity penetrating consolidant with 8 hour minimum cure time.

B. Patching compound: Latex based single component.
   1. Color: match the darker areas of existing wood.
   2. Approval of color match of patching compounds shall be by Architect.

PART 3 - EXECUTION

3.1 REPAIR AND REPLACEMENT OF WOOD FABRIC AND COMPONENTS:

A. Severe damage/deterioration/missing components and/or fabric:
   1. Remove the affected material in such a manner as to minimize damage to any adjacent fabric and/or surfaces.
   2. Fit new components or portions of components to exactly match the existing profiles and lines:
      a. New wood dutchman patches shall provide full thickness of the adjacent surrounding existing component being patched.
   3. All joinery shall achieve a hairline joint; glue and nail all components.
   4. Feather new materials into existing; sand smooth any cut ends and edges.
   5. Cut square any holes or other apertures in wood to ensure hairline fit of wood dutchman patches.
   6. Match wood grain character of new dutchman to existing adjacent wood. Note: slight variation will be acceptable.
   7. Severe damage or deterioration:
      a. Extensive areas of moisture or insect damage exceeding 3/4" in any direction.

B. Moderate damage or deterioration:
   1. Remove affected material to a point where existing material is sound.
   2. Apply consolidant to areas affected by deterioration. Consolidant is not to be used where exposed surfaces require repairs and patching.
   3. Apply patching compounds only after consolidant has properly and adequately cured to not adversely affect the patching compound. Embed matching wood in patching compounds as applicable to reduce the area of patching.
   4. After patching compound has cured, smooth surface to match adjacent surface.
   5. Moderate damage: minor gouges, breaks not exceeding 3/4" in any direction.

C. Minor damage or deterioration:
   1. Treat areas with consolidants per manufacturer’s directions as needed.
   2. Small incidental wear items related to normal patterns of daily usage (i.e., cupping where repeated contact with hands, etc. has occurred will be acceptable “patina” of wear.

D. Field-Finished Doors: Refer to the following for finishing requirements:
   1. Division-9 section "Exterior Painting".

3.2 REPAIR AND REPLACEMENT OF DOOR HARDWARE

A. Refer to Section 08710 for Door Hardware for existing hardware refurbishment program.

3.3 REPLACEMENT OF GLASS

A. Replace missing or broken glass.

B. Replace intrusive non-historic glass with the proper glass.

C. Where occurring/if occurring replace any glazing compounds or sealants.

3.4 REFINISHING OF RESTORED WOOD DOORS

A. Refer to Section Division 6 and 9.

3.5 PROTECTION

A. Protect all existing historic wood doors and hardware during construction.

B. If doors and hardware are to be left in place, wrap all exposed components including, but not limited to, doors, hardware and glass with hard surface material to avoid damage due to impacts and general dirt and debris infiltration.

C. Doors and/or hardware removed for refurbishing and restoration shall be packed or wrapped with a solid material and labeled individually so as to be easily identified for reinstallation with the opening in which it was originally located.

END OF SECTION 08295 – WOOD DOOR RESTORATION

SECTION 08 57 00
ACOUSTIC WINDOW INSERTS

PART 1 GENERAL

1.01 SUMMARY

A. This section includes the following.
1. Measuring & Installation of Thermal Inserts for the insulation and air sealing of existing windows.

1.02 REFERENCES

A. American Society for Testing and Materials:
1. ASTM-E283-04 “Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen”

2. ASTM Standard C1199-09 “Standard Test Method for Measuring the Steady-State Thermal Transmittance of Fenestration Systems Using Hot Box Methods”

3. ASTM E966 “Standard Guide for Field Measurements of Airborne Sound Insulation of Building Facades and Facade Elements”

B. ASHRAE
1. ASHRAE defined winter design conditions

p

1.03 SUBMITTALS

A. Comply with pertinent provisions of Section 013000- Required Submittals

B. Product data:
1. Submit thermal insert manufacturer's specifications and test data.
2. Submit thermal insert manufacturer's recommended installation procedures; which when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the work.
3. Submit thermal insert manufacturer’s technical data sheet giving descriptive product data.

C. Test Reports:
1. Provide certified test reports, prepared by an independent testing laboratory, confirming compliance with specified performance criteria.

D. Samples:
1. Provide product sample cross section in type and color no smaller than 6” x 6”

1.04 QUALITY ASSURANCE

A. Installer Qualifications:
1. Use only a certified measure and installation technician to properly obtain a minimum of six (6) measurements for each opening.
2. The thermal insert manufacturer shall certify all measure & installation technicians.
3. Measure & Installation technician shall be familiar with the specified requirements and the methods needed for proper performance of work of this section. Measure & Installation technician must have availability of proper equipment to perform work within scope of this project on a timely basis.

B. Manufacturer’s Certification:
1. Provide letter of certification from thermal insert manufacturer stating that measure and installation technician has completed factory certified training, and is familiar with proper procedures and installation requirements required by the manufacturer.
2. Dealer must be in good standing as approved product dealer.

C. Protection
1. Cleaning of installed thermal inserts will be performed based on written manufacturer’s care guide.
   a. Micro-fiber cloth and mild castile soap and water solution to be used.
   b. Commercial grade insert may be cleaned with lint free rag and glass cleaner.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver materials in original packaging, bearing manufacturer labels indicating brand name and directions for storage.

B. Store thermal inserts when not in use in storage sleeves provided by manufacturer.

C. Store thermal inserts flat on the floor with the largest on the bottom, no more than 3 high to prevent bowing or warping.

D. Thermal inserts can also be stored vertically, straight up and down.

1.06 PROJECT CONDITIONS

A. Environmental limitations:
1. Comply with manufacturer's written instructions for limitations of window opening.
   a. Window opening must be no greater than 6' x 8' or 5' x 10' (Standard Grade). Size restrictions of specialty grades detailed in 2.01 B. Mullion kit available through Indow may be used to extend size limitations.
   b. Window opening must have an unobstructed, flat surface, perpendicular to the window pane with a depth of at least 5/8" that runs the entire perimeter of the window.
   c. If 5/8" depth is not available, contact manufacturer for site specific remedy.
   d. Skylights may be no greater than 8 sq ft.

PART 2 – PRODUCTS

2.01 MATERIALS AND MANUFACTURERS

A. Thermal insert manufacturer

1. Indow Thermal Window Inserts
   manufactured by:
   Indow Inc., Portland, OR
   Russ Eisenberg, Director of Sales
   (503) 284-2260

   a. Performance Criteria:
      1. ASTM-E283-04 – Reduction in Leakage rate to 0.024 CFM
      2. ASTM Standard C1199-09 – U Value of .53 or better
      3. ASTM E966 - Noise Level Reduction (dBA) improvement of 10 dBA

4. Performance criteria of specialty grades detailed in 2.01B

2. Or Approved Equal

B. Thermal Insert Components and Assembly
1. Glazing
a. Manufactured within the United States of acrylic sheeting, also known as PMMA (Poly Methyl Methacrylate) in thicknesses ranging from .118" to .236".
b. Color: Black out or opaque acrylic
c. Acoustic Grade (AG) Inserts that reduce the noise coming through operable single-pane windows by 18.9 dBa. Commercial Grade.
d. Commercial Grade (CG) Have an extra abrasion resistant coating to provide additional protection against scratching (moving and frequent cleaning). There is no visual difference between the Standard, Museum and Commercial Grade acrylic.
e. Museum Grade (MG) Protects furniture, carpets, and artwork by filtering 98% of all UV rays from sunlight coming through windows. There is no visual difference between the Standard, Museum and Commercial Grade acrylic.
2. Compression Tubing
a. Contains no PolyVinylChloride (PVC)
b. Friction fit Silicone tubing
c. Color: to match existing windows or neutral color

PART 3- EXECUTION

3.01 SITE CONDITIONS

A. Contractor shall examine each window opening to ensure 5/8" continuous unobstructed space perpendicular to the windowpane with no protrusions that extend beyond the plane of where the Acoustic Window Insert will be seated. Do not proceed until unsatisfactory conditions are corrected.

B. Existing louvered wood shutters to remain. Verify that shutters will not affect proper installation of the acoustic insert windows.

C. Ensure that the frame of the existing window does not bow by more than 1/16" along any linear side.

D. Prior to installation contractor shall:
1. ensure that all windows are clean and free of debris that will impede view.

3.02 Measurement of Window Openings

A. All openings will be measured using Acoustic Window Insert approved laser measuring device.

B. All openings will be measured by a manufacturer-certified Measure and Installation Technician in accordance with latest training protocols established by acoustic window insert manufacturer.

C. Specialty shapes will be measured in accordance with templates supplied by the acoustic window insert manufacturer.

3.03 Installation of acoustic inserts:

A. Install blowout strap brackets if required.

B. Clean Window & surface on which thermal insert will be installed.

C. Test fit thermal insert prior to removing protective film.

D. Remove protective film and clean thermal insert as needed.

E. Press thermal insert into place as instructed in training.

F. Educate end user on proper care, maintenance, and cleaning of the product.

3.05 PROTECTION

A. Protect installed units if additional construction will be occurring in area to prevent debris from damaging surface.

B. If required, leave manufacturer supplied protective film in place on interior facing panel until area is free from potential damage.

END OF SECTION 08

SECTION 08592 WOOD WINDOW RESTORATION

PART 1 - GENERAL

1.1 SUMMARY

A. All existing wood window frames, sashes, sills, and other associated components are to be fully repaired and be augmented by new wood repair "dutchmen" as needed to restore the existing wood windows to a water-tight condition.

B. The Work includes, but is not limited to:

1. Removing paints (exteriors and interiors), or varnishes, and miscellaneous glazing compounds.
2. Restoring deteriorated wood sash, frame, jamb, and trim members.
3. Replicating missing, severely deteriorated or damaged components.
4. Prime painting restored wood units.
5. Painting exterior of windows with opaque finishes to match existing conditions.
6. Painting interior of window sashes with opaque finishes to match existing conditions.
7. Sealing perimeter and fixed sash within the window frame, installation of new wood brick moldings as needed.
8. Installation of any other components necessary to return the existing components together with the new sashes to a complete, restored condition.
9. Installation of new sash cord.

C. Proper encapsulation, abatement, removal and disposal of lead bearing paint, conforming to regulations governing such activities, on all components of existing wood units receiving work under this section.

D. Fabrication, installation and prime painting of replacement window components (including new sashes) to match configuration and construction detail of original windows in accordance with the found conditions on site.

1.2 RELATED SECTIONS

A. Include, but not limited to:

1.Division 6 wood surface prep and repair.
2. Division 9 paints and painting

1.3 DEFINITIONS

A. Good Condition: Window component shows less than 5 percent rot, finish shows little sign of paint failure.

B. Fair Condition: Window component shows less than 30 percent rot, finish shows some signs of paint failure.

C. Poor Condition: Window component shows significant (but less than 50 percent) rot -

D. Bad Condition: The window component is missing or beyond repair, more than 50 percent of the window shows rot or corrosion.

1.4 SUBMITTALS

A. Product Data

1. Descriptive data and application instructions for fungicide, patching compound and consolidant.

B. Samples: 12 inch long samples of each wood profile.

C. Samples: 12 inch long samples of lumber to be used in the rebuilding.

D. Qualifications: Restorer qualifications, including past projects.

E. Provide additional data and/or samples as required by the Design Team.

F. Scope of Work Survey:

1. Scope of Work Survey: AS A PART OF THE BIDDING PROCEDURES, the contractor shall survey the entire building against the Drawings provided by Design Team. Survey all window locations to develop a graphic survey denoting all the locations for and areas/quantities (square feet, linear feet, etc.) including various operations for:

a. Replication of components, or portions thereof, determined to be:

1) Damaged beyond repair
2) Impeding the repair or replacement of another component, thus having to be removed, in portion or in full, in order to reach the target component, and that are not able to be re-used or reinstalled.

b. Epoxy repairs
c. Wood Consolidation
d. Tightening of loose connections
e. Glazing replacement
f. The Design Team will confer with the Windows Restoration Contractor to review and confirm the quantities of the above operations.

2. Paint stripping.
3. Hardware:

a. The windows are sealed shut with sealant/paint and are not operable. It is believed that the weights are present in the jamb pocket. Most sash rope has been painted and will need to be replaced. The existing pulleys should be reused after paint removal and refinishing. The scope of work includes making the windows operable. Document any extant hardware that is found.
b. Installation of bronze-spring weatherstripping at full perimeter and meeting

rails, sill and lower sashes.

5. Shop drawings for each type of window:

   a. Complete set of drawings showing all elevations, layout and installation details, including anchors.
   b. Typical window unit elevations at 3/4-inch scale, with all dimensions.
   c. Full-size details of typical and composite members.
   d. Stipulation of wood species and grade.
   e. Listing of hardware components, with cut sheets of all hardware.
   f. Glazing details.
   g. Accessories.
   h. Installation of temporary window protection closure to prevent water intrusion while window is removed for repair.

1.5 QUALITY ASSURANCE

A. Restorer Qualifications:

1. Minimum 20 years experience in work of this section.
2. Successful completion of at least 5 projects of similar scope and complexity within past 8 years.
3. Experience with the THC.

B. Fabricator Qualifications: Same qualifications as Restorer, if a different entity.

C. Mockup:

1. After review and approval of shop drawings, etc. as noted above, the contractor shall fabricate a full size mockup of each different type of window incorporating all the components of the final window.

   a. Deliver the mockups to the site.
   b. Install mockups in window openings where the specific type may ultimately be installed for review by Design Team.
   c. The mock ups may become part of the final construction after final approval.
   d. The mockups installation shall be of such a manner as to allow the removal and reinstallation as needed during the review and approval process.

2. Illustrate wood replacement, patching, and consolidation materials and methods.

3. Install each type of hardware:

   a. Install weatherstripping

      1) Including perimeter, meeting rail, lower sash and sill weatherstripping.

4. After approval of materials and methods, refinish window to illustrate paint materials and methods.

5. Approved mockup may remain as part of the Work.
6. Do not proceed on window restoration work until approval of mock ups has been attained.

D. Wood species confirmation:

1. Species confirmation: written confirmation from Center for Wood Anatomy Research, USDA Forest Service.

E. All wood shall be stored indoors out of the weather and allowed to achieve its moisture content equilibrium before being fashioned for final placement in its assembly.

1.6 PROJECT CONDITIONS

A. Field Measurements: Check actual window openings by accurate field measurement before fabrication or repair. Show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delay.

1.6 PROVISIONS

A. The contract documents including drawings and specifications represent the overall intent of the building's design and in most cases do not show all components necessary to complete each and every construction assembly included in the project. The contractor shall include in his base price, all elements necessary, where detailed drawings or instructions are not provided, for the complete and finished installation of each and every component required to complete this project.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Lumber for restoration purposes:

1. Species:

a. Match Existing Species

1) Grade: No. 1 Dense

2. Texture: Surfaced (smooth).
3. Lumber for Painted Finish: Solid lumber stock for exterior finish
4. Free from machine defects, face checks, cracks, and pitch pockets over 1/8 inch in width.
5. Knots: None.
6. Maximum moisture content: 6 percent.
8 Species confirmation:

a. Contractor shall procure sample of extant of wood from source which will require replacement. This sample shall be submitted to the Center for Wood Anatomy Research, USDA Forest Service, Forest Products Laboratory for verification of species.
b. Written confirmation of this verification shall be submitted to the Owner and Design Team prior to proceeding with any window restoration or replication work
c. Center for Wood Anatomy Research
USDA Forest Service, Forest Products Laboratory
One Gifford Pinchot Drive
Madison, Wisconsin 53726-2398

B. Character of wood:

1. All wood used on the project for the purposes of restoration of the existing wood windows shall match the character of the existing wood of extant frames and jambs as much as possible
2. No wood that does not match the character of the existing shall be used on the project. All wood used on a discreet component shall be custom matched in the field to that specific location and usage in order to achieve the highest degree of match to the extant wood as possible.
3. Do not use salvaged wood.
4. The Design Team shall be the final judge of the correct character of the wood.

C. Concealed Blocking and Nailers: Concealed wood blocking and nailers installed as a part of window restoration or replacement work shall be fire retardant treated material. Provide material cut to necessary sizes and thickness.

D. Consolidant: Low viscosity penetrating consolidant, 8 hour minimum cure time; LiquidWood by Abatron, Inc. or approved substitute.

E. Patching Compound: Epoxy based, multiple component; WoodEpox by Abatron, Inc. or approved substitute.

F. Fungicide: Bora-Care by Abatron; or eq.

G. Dowels: Hardwood type with longitudinal splines.

H. Adhesive: Exterior waterproof type, formulated specifically for use on wood.

I. Weatherstripping: Bronze, spring folded for tight fit.

J. Fasteners: Type and size as required by conditions of use; hot dip galvanized or corrosion resistant coated steel.

K. Primer: Shop prime for field paint finish with one coat of wood primer type specified in Division 9 Section "Exteiror Painting."

L. Balance Weights: Where missing, provide balance weights to match existing or as needed by sash weight; Phelps Company, (603) 336-6085; or from another source as approved by Design Team.

L. Sash Cord: Most existing sash Cord has been painted and is not salvageable. Replace existing sash cord with new cord to match original in kind. New cotton braided sash cord, Buffalo, Samson, or approved equal.

M. Pulleys: Reuse existing pulleys. Remove paint and refinish. Polish and clean. Oil operable mechanism. Where missing, provide new pulleys for window; Phelps Company, (603) 336-6085; or from another source as approved by Design Team. Provide sash balances hardware (weights, pulleys, etc.) from same Manufacturer.

2.2 FABRICATION

A. Fabricate new wood components with profiles and dimensions to exactly match existing components using salvaged materials as a template.

B. Cut curved trim in segments from solid stock. Join sections with oval shaped wood inserts and glue.

D. Construct new wood windows and repairs using original joinery and fastening methods displayed in the submitted and approved Mock-up.

PART 3 - EXECUTION

3.1 PREPARATION

A. Paint Removal: Remove lead-based paint (if any), non-lead based paints and asbestos-bearing glazing compounds using proper methods and procedures. Dispose of hazardous materials as prescribed by law.

B. Remove existing sealants and glass where required by restoration operations:

1. Store all glass in a safe and secure manner.
2. Dispose of damaged or broken glass in a safe manner.

3.2 RESTORATION - GENERAL

A. All Windows:

1. Install full weatherstripping.
2. Replace and/or reinstall glass and trims.
3. Refurbish exterior and interior surfaces of sash frame in preparation for new finishes:

a. Exteriors and interiors of all windows to be primed for final painted finish.

1) fully strip all existing paint.

B. Window components in Good Condition: Treat with fungicide and consolidate soft wood.

C. Window components in Fair Condition:

1. Treat with fungicide.
2. Consolidate soft wood.
3. Epoxy patch deteriorated wood (opaque finish conditions only).

D. Window components in Poor Condition:

1. Treat with fungicide.
2. Consolidate soft wood.
3. Epoxy patch moderately deteriorated wood (opaque finish conditions only).
4. Replace severely deteriorated wood and missing wood elements with matching new components.

E. Window components in Bad Condition:

1. Provide new wood component to match existing, including adjacent components
2. Provide new wood window frame components to match existing.
3. Provide new wood trim to match existing.

3.3 DOWELING LOOSE JOINTS

A. Temporarily align joints using clamps.

B. Drill holes through adjoining members for placement of dowels.

C. Set dowels in full adhesive bed.

D. Cut off dowels flush with adjacent surface; sand smooth.

3.4 CONSOLIDATING SOFT WOOD

A. Identify soft wood as surfaces that are punctured under moderate pressure from a screwdriver.

B. Apply consolidant in accordance with manufacturer’s instructions.

C. Completely saturate identified areas with consolidant; allow to cure 8 hours minimum.

D. Apply to end grain where exposed. Where end grain is not exposed, drill 1/8 inch holes staggered and at angles to side grain to expose as much end grain as possible.

E. Prevent leakage with wax or clay plugs. Clean leakage before it cures.

F. Apply second coat if first coat does not completely saturate and harden wood.

3.5 EPOXY PATCHING VOIDS IN WOOD

A. Apply patching compound to fill voids after consolidant has cured.

B. Remove loose and unsound wood back to a point at which sound material is reached.

C. Mix and apply patching compound in accordance with manufacturer's instructions. Preliminarily contour filler to adjoining profiles while in a plastic state.

D. Embed wood in center of large patches to reduce amount of patching compound.

E. After patching compound has cured, sand, chisel or plane off to smooth surface, flush with adjacent surfaces.

3.6 REPLACING DETERIORATED AND MISSING WOOD

A. Replace deteriorated and missing wood frame, sash, and trim members with new wood members.

1. New wood to match the existing in all respects (including species if approved by Design Team and Texas Historical commission Representative), cut, graining characteristics, color, etc.

B. Match new wood to profile and grain of existing wood.

C. Fabricate frame and sash members with mortised and tendoned joints. Fit to hairline joint, glue and nail. Stapling not permitted.

3.7 BALANCE WEIGHT, PULLEY AND SASH CORD INSTALLATION

A. Follow balance tape manufacturer's recommendations:

1. Verify existence of sash pockets and balance weights while conducting exploratory demolition.
2. Install new balance weights where original are missing.
3. Install brass pulley and brass pulley cover where original are missing.
4. Replace existing painted sash cord with new cotton braided. Do not paint.
3. Windows with extant hardware, pulleys, weights, etc. shall have the system tuned-up and hardware cleaned and polished. Replace damaged or unserviceable elements.

3.8 HARDWARE

A. Remove and tag each hardware item at the window, salvage, clean and re-install.

1. Missing components of latches, or pulls, shall be replaced with new to match existing in material, overall design and appearance.
2 Clean and polish hardware before re-installation.

a. Carefully remove adhesive residue, and paint and varnish drips using paint stripper applied with soft cloths. If necessary, apply light pressure using natural bristle brush.
b. For stubborn dirt and hard to clean areas, apply detergent (mild soap such as Ivory Liquid) with silicon carbide abrasive pad ("Scotch-Brite"). Under the direction of a qualified conservator, areas of bright metal work may be refinished with a suitable oxidizing agent to match existing patinas. Rinse thoroughly and buff dry with soft cotton cloths.
c. Re-install hardware after it has been refinished. Do not reinstall the hardware until the wood window sash and frame finishes have been completed.

3.9 PRIME PAINTING

A. At the conclusion of restoration work for the wood members, prime paint the entire window assembly prior to attaching weatherstrip, hardware and/or accessories, and prior to inserting the sash members into the frame. Prime paint all wood surfaces including glazing recesses.

1. If Linseed oil glazing putty is used, prime glazing recesses with linseed oil; or shellac.

3.10 GLASS INSTALLATION

A. New glass and salvaged glass installed under provisions of Section 08800.

3.11 REFINISHING WOOD

A. Exterior wood surfaces of sash, frame, and trim are finish painted under provisions of Section
09910 “Painting”.

B. SPECIAL NOTE: Contractor shall be completely responsible for the protection of all glass during all phases of the work including the finishing on both exterior and interior surfaces of windows.

1. Mask all glass areas prior to using any abrasive measures, i.e., sanding with sandpaper, use of scrapers or knives, etc. for the preparation of and on any wood surfaces adjacent to any glass.
2. Any scratched glass due to use of abrasive will be replaced at the Contractor’s expense.

3.10 ADJUSTING AND PROTECTION:

A. Finish Windows: Refinish or replace windows damaged during re-installation.

B. Protect to ensure that windows are without damage at time of Substantial Completion.

D. Protect all existing glass from damage during construction.

E. Protect all existing wood windows and hardware during construction.

3.11 CLEANING

A. Clean interior and exterior surfaces promptly after installation. Take care to avoid damage to protective coatings and finishes. Remove excess sealants, dirt, and other substances from window units.

B. Clean glass of window units promptly after installation. Wash and polish glass on both faces before Substantial Completion. Comply with manufacturer's recommendations for final cleaning and maintenance. Remove nonpermanent labels from glass surfaces.

C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during the construction period.

END OF SECTION

SECTION 093000 - PRIMERS AND PAINTS FOR WOOD

This standard includes general information on primers and paints to be used on interior and exterior wood surfaces. The primary purpose of paint is to protect wood from deterioration. To do so, paint manufacturers have developed paint systems which are made to work together to protect the wood substrate. These systems include primers and appropriate, compatible topcoats which can vary depending on the substrate and can vary between manufacturers. As a result appropriate primers and compatible top coats, both from the same manufacturer, should be used. For information on paint removal from wood, surface preparation and application procedures, see the following:

- For guidance on paint removal from wood see:
  "Chemically Removing Paint from Wood Features",
  "Supplemental Guidelines for Removing Paint from Interior and Exterior Wood Surfaces" and "Removing Paint From Wood Features Using Thermal Methods".

PRIMERS FOR WOOD

A. CHARACTERISTICS

1. They prevent certain chemical reactions from occurring between the wood and the topcoats. In wood, water soluble extractives are often a natural constituent of many wood species. Stain blocking primers, either oil- or water-based are especially important to use in these situations.
2. They provide a more stable substrate for the new topcoats.
3. They provide a uniform coat allowing more even color coverage of the topcoats.
4. They bind weathered wood fibers, providing a more stable substrate.
5. For areas subject to heavy mildew, mildew resistant primers are also available, making the surface less susceptible to mildew.

B. TYPES

1. Oil/Alkyd Primers:
   a. Must be applied to a completely dry surface.
   b. Recommended for use when all of the paint has NOT been removed from the surface. Oil based paint is better able to bind with old, chalky paint layers thereby providing a more stable base for the finish coats.

c. Recommended for use if the existing paint type is unknown (oil or latex?), or if a switch to latex top coat is being made.
d. Appropriate for use on wood surfaces from which all paint has been removed but which are subject to less movement, i.e. a wall surface rather than a fence.
e. Advantages:
    i. Have excellent stain blocking capabilities.
    ii. Suited for wood in which the paint has NOT been removed.

2. Acrylic Latex Primers:
    a. Found to be successful when used on wood surfaces from which all of the paint has been removed and from wood surfaces which are "fresh".
    b. They are especially good for surfaces which are considered difficult situations i.e. free-standing elements such as fences, columns, balustrades, etc. where wood is constantly moving.
    c. They can be applied to wood that is slightly damp.
    d. Advantages:
        i. More flexible than oil/alkyd paints.
    e. Limitations:
        i. As latex paint dries it shrinks more than oil and can literally pull off older, more brittle paint layers as it dries. Therefore, oil/alkyd paints are usually recommended for use on wood surfaces where all of the paint has not been removed.

3. Products:
    1. Lucite brand of Forest Products Lab: Found to be the most flexible and is the only acrylic latex primer which has a good stain blocker.

    2. If Lucite is unavailable and the wood being painted contains water soluble extractives (cedar and redwood), then an oil/alkyd primer is recommended.

    3. If in doubt about the stain-blocking capabilities of a selected latex primer, test it.

PAINTS FOR WOOD

A. CHARACTERISTICS

1. Made up of three basic ingredients:
    a. A binder - oil or water
    b. Thinner - mineral spirits, turpentine or water
    c. Pigment - organic or inorganic
2. To these basic ingredients can be added any number of additives to produce specialized paints.
3. The term vehicle, often used in reference to paint, refers to the binder plus the thinner.

B. TYPES

NOTE: The paint selected must be from the same manufacturer and made to be used with the primer selected. It should also be selected for use in a specific situation where applicable, such as using porch and deck enamel when painting porch floors.

CAUTION: PAINTS CONTAINING ZINC ARE TO BE AVOIDED WHEN PAINTING WOOD, AS ZINC ATTRACTS MOISTURE.

1. Oil/Alkyd Paints:
    a. Opaque coatings which use natural oils, such as linseed oil, or modern alkyds as the binder.
    b. Alkyds are oil modified resins which dry faster and harder than ordinary oils.
    c. They offer the best protection from both liquid and vaporous water but become brittle with age and eventually are unable to move with the substrate and peel, crack, flake, etc.
    d. Advantages:
        i. Durable.
    e. Limitations:
        i. Longer drying time.
        ii. More difficult to clean up than latex paints.
        iii. Can be odorous, volatile and flammable due to the presence of organic solvents.

2. Emulsion or Latex Paints:
    a. Also known as water based paints, these paints have a latex binder which has been emulsified or suspended in water.

b. Acrylic latex resins are particularly durable and favored over polyvinyl acetate and polyvinyl chloride latex resins.
c. They allow more water vapor to pass through than oil base paints and they are more flexible, even over time. Nevertheless, they will eventually peel, flake, crack, etc.
d. For optimal results when using acrylic latex paints, make sure that for at least the first 24 hours after application, a temperature of 50 F can be maintained.
e. Advantages:
    i. Easy to clean-up.
    ii. May be thinned with water.
    iii. More flexible than oil/alkyd paints.
    iv. Provide better resistance to mildew because there is no oil in the paint. The oil of oil/alkyd paints acts as food for mildew.
        NOTE: THERE HAVE BEEN CASES WHERE MILDEW HAS PROLIFERATED EVEN ON A LATEX PAINT SURFACE; APPARENTLY THE TINT USED TO COLOR THE PAINT PROVIDED THE NECESSARY FOOD SOURCE.
    v. Decreased odor, toxicity and flammability (due to lack of organic solvents and thinners).
    vi. Acrylic-based paints:
        a. Excellent color and gloss retention.
        b. Good flexibility and durability.
    vii. Polyvinyl acetate emulsion paints:
        a. Low cost.
        b. Excellent color retention.
    viii. Styrene-butadiene paints: None identified.
    ix. Linseed-oil resin-emulsion systems:
        a. Easy to make.
        b. Low material cost.
        c. Improves paint durability.
f. Limitations:
    i. Some emulsion paints require the use of a special primer or sealer to seal chalky surfaces and prevent peeling of the new coating.
    ii. Acrylic-based paints:
        a. Sometimes have poor color retention in dark tints.
        b. Sometimes combined with alkyd-resins for better adhesion; This increases the potential of mildew growth.
    iii. Polyvinyl acetate emulsion paints:
        a. Moderate durability when used alone; Durability is

increased when the vinyl acetate emulsion is blended with other emulsions (i.e. acrylic, linseed oil, alkyd-resin).

iv. Styrene-butadiene paints:
    a. Normally not used on exterior.
    b. Tend to yellow with age.
    c. Not very flexible - grain cracking is a frequent problem when applied to wood.
    d. Not readily available today.

v. Linseed-oil resin-emulsion systems: None identified.

Products/Suppliers:

1. Benjamin Moore and Co.
2. The Sherwin-Williams Company
3. Glidden
4. PPG Industries, Pittsburgh Paints

SECTION 09 9113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract apply to this Section.

1.2 SUMMARY

A. Section includes surface preparation and the application of paint systems on exterior substrates.

1. Steel.
2. Galvanized metal.
3. Wood.

1.3 DEFINITIONS

A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.

B. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.

C. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.

D. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

E. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.

F. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

B. Samples for Initial Selection: For each type of topcoat product.

C. Samples for Verification: For each type of paint system and each color and gloss of topcoat.

1. Submit Samples on rigid backing, 8 inches square.
2. Step coats on Samples to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.

D. Product List: For each product indicated, include the following:

1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
2. Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
3. VOC content.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint: 5 percent, but not less than 1 gal. of each material and color applied.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. 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:
1. Glidden Professional
2. Kelly-Moore Paint Co.
3. Pittsburgh Paints
4. The Sherwin-Williams Co.

2.2 PAINT, GENERAL

A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."

B. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

C. VOC Content: Provide materials that comply with VOC limits of authorities having jurisdiction.

D. Colors: As selected by Architect from manufacturer's full range.

2.3 SOURCE QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:

1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
2. Testing agency will perform tests for compliance with product requirements.
3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
1. Wood: 15 percent.
2. Gypsum Board: 12 percent.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

D. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer.

E. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

F. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

G. Wood Substrates:

1. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for exterior use in paint system indicated.
2. Sand surfaces that will be exposed to view, and dust off.
3. Prime edges, ends, faces, undersides, and backsides of wood.
4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."

1. Use applicators and techniques suited for paint and substrate indicated.
2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
4. Paint entire exposed surface of window frames and sashes.
5. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
6. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

1. Paint the following work where exposed to view:

a. Equipment, including panelboards.
b. Uninsulated metal piping.
c. Uninsulated plastic piping.
d. Pipe hangers and supports.
e. Metal conduit.
f. Plastic conduit.
g. Tanks that do not have factory-applied final finishes.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.

1. Contractor shall touch up and restore painted surfaces damaged by testing.
2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 RE-PAINTING

A. Locations and Extent: the re-painting of existing surfaces shall be as follows:
1. Painted wall, door and frame surfaces which have been reworked, cut into or patched. Re-painting shall include openings in existing walls.

2. Entire rooms/areas, as designated on the drawings.

B. Colors: Match existing colors of corresponding surfaces except where new colors are scheduled.

C. Preparation:
1. Clean surfaces to remove dust and dirt. Remove oil, grease, wax, loose paint, mill scale dirt, foreign matter, rust, mold, mildew, mortar, efflorescence, and sealers and other contaminants which would inhibit paint bonding to the old paint.
2. Remove rust and loose and flaking paint by scraping and sanding.
3. Glossy surfaces of old paint films and ceiling grid must be clean and dull before repainting. Thorough washing with an abrasive cleanser will clean and dull in one operation, or wash thoroughly and dull by sanding.
4. Spot prime any bare areas with an appropriate primer in conformance with the following paint schedule for new work.
5. Check for compatibility by applying a test patch of the recommended coating system, covering at least 2 to 3 Sq.Ft. Allow to dry one week before testing adhesion per ASTM D 3359. If the coating system is incompatible, complete removal of existing finish is required.

D. Painting: Generally, apply one coat of finish paint over old surfaces, using the same materials scheduled in the paint schedule for like new surfaces.

E. Verify the extent of re-painting work at the building and make due allowance for cutting and patching required for installation of mechanical and electrical work.

3.7 PAINT SCHEDULE

A. The products listed below represent top-of-the-line products of each manufacturer. These products are not presented as being equivalent, as there are too many variables to match each product across the board. Manufacturer's designations are:

ICI	Glidden Professional (Akzo Nobel Paints, LLC)
KM	Kelley-Moore Paint Co.
PPG	Pittsburgh Paints
SW	The Sherwin-Williams Co.

B. Exterior Wood
1. Siding, trim, doors, hardboard, miscellaneous wood
1 primer coat
ICI 2110-1200 Ultra-Hide Durus Exterior Alkyd Primecoat
KM 220 Exterior Primer
SW A-100 Alkyd Exterior Wood Primer, Y24 W 20
PPG Speedhide Exterior Alkyd Wood Primer 6-9
2 finish coats
ICI 2416 Ultra-Hide Durus Exterior Acrylic Semi-Gloss Finish
KM 1250 Acry-Lustre Acrylic Semi-Gloss
SW DTM Acrylic Semi-Gloss Coating, B66 Series
PPG Speedhide Exterior Semi-Gloss Acrylic Latex 6-900 Series
2. Soffits
1 primer coat
ICI 2110-1200 Ultra-Hide Durus Exterior Alkyd Primecoat
KM 250 Acrylic Primer Sealer
SW S-W A-100 Exterior Latex Primer, B42W41

PPG Speedhide Exterior Latex Wood Primer 6-609

2 finish coats

ICI 2412 Ultra-Hide Durus Exterior Acrylic Satin Finish
KM 1245 Acry-Velvet Acrylic Low Sheen
SW S-W A-100 Satin Latex House & Trim, A82 Series
PPG Speedhide Exterior Satin Acrylic Latex 6-2045 Series

C. Exterior Metal

2. Steel pipe, conduit, hangers supports and brackets.

1 primer coat

ICI 4120 Devguard All Purpose Metal & Galvanized Primer
KM 1722--Kel-Guard Galvanized Iron Primer
PPG Speedhide Int/Ext Galvanized Steel Primer 6-209
SW Galvite Paint, B50 WZ30

1 finish coat

ICI 4308 Devoe Alkyd Industrial Gloss Enamel
KM 1700--Kel-Guard Rust Inhibitive Enamel
PPG Int/Ext Industrial Gloss Alkyd Enamel 7-282 Series
SW Industrial Enamel, Series B54

3. Galvanized steel pipe handrails, railings, lintels, gates, metal fencing, ladders, ductwork, flashings, copings, roof hatches, tubular steel downspouts, galvanized gutters and down-spouts, scuppers, ventilators, and louvers. (Reference test procedure for Passivators)

1 primer coat

ICI 4120 Devguard All Purpose Metal & Galvanized Primer
KM 1722--Kel-Guard Galvanized Iron Primer
PPG Speedhide Int/Ext Galvanized Steel Primer 6-209
SW Galvite Paint, B50 WZ30

2 finish coats

ICI 4308 Devoe Alkyd Industrial Gloss Enamel
KM 1700--Kel-Guard Rust Inhibitive Enamel
PPG Int/Ext Industrial Gloss Alkyd Enamel 7-282 Series
SW Industrial Enamel, Series B54

4. Items of mechanical and electrical machinery and equipment, including mechanical and electrical equipment on the roof which are 12" above roof line and are not concealed by a screen.

1 finish coat

ICI 4308 Devoe Alkyd Industrial Gloss Enamel
KM 1700--Kel-Guard Rust Inhibitive Enamel
PPG Int/Ext Industrial Gloss Alkyd Enamel 7-282 Series
SW Industrial Enamel, Series B54

END OF SECTION 09 9113