

Harvey County Courthouse Courtroom #4 Remodel

Bid Package

Bid Documents & Specifications

29 August 2023

Schaefer Project: 5407.50



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- AIA A101 Standard Form of Agreement Between Owner & Contractor where the Basis of Payment is a Stipulated Sum - 2017
- AIA A201 General Conditions of the Contract For Construction - 2007 2017, with amendments
- AIA G612 Owner's Instructions to the Architect for Insurance & Bonds

1.02 AIA DOCUMENTS BY REFERENCE ONLY

- AIA A310 Bid Bond - 2010
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- Bond To The State Of Kansas - Statutory Payment Bond - Public Work

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INVITATION

1.01 BID SUBMISSION

- A. **BID DATE, TIME AND LOCATION:** Lump Sum Bids signed and under seal, executed, and dated will be received in accordance with the following:

DATE: MONDAY, 25 SEPTEMBER 2023

LOCATION: Harvey County Courthouse - Administration Office
800 North Main, P.O. Box 687
Newton, KS 67114

TIME: 4:00 p.m. local time

1. Bids (proposals) shall include furnishing all labor, materials, equipment and performing the Work for the above described project in strict accordance with the Bidding Documents.
- B. Offers submitted after the above time will be returned to the bidder unopened.
- C. Offers will be opened publicly at the Harvey County Commission Meeting on Tuesday, September 26th on or after 9 a.m.

1.02 INTENT

- A. The intent of this Bid request is to obtain an offer to perform work to complete project named Harvey County Courthouse - Courtroom #4 Remodel for a Stipulated Sum contract, in accordance with Contract Documents.
- B. Work shall be included under a Single Contract.
- C. Each General Contractor shall select the various sub-contractors and suppliers with whom they wish to work.

1.03 WORK IDENTIFIED IN THE CONTRACT DOCUMENTS

- A. Work of this proposed Contract comprises building construction and remodeling, including general construction and electrical Work.

1.04 CONTRACT TIME

- A. Identify Contract Time to be Substantially Complete in the Bid Form. The completion date in the Agreement shall be the Contract Time added to the commencement date.
- B. The Work shall be completed within thirty calendar days following the date of Substantial Completion, unless specifically agreed otherwise, in writing, on the Certificate of Substantial Completion.

BID DOCUMENTS AND CONTRACT DOCUMENTS

2.01 DEFINITIONS

- A. All definitions set forth in the General Conditions of the Contract for Construction (AIA Document A201 - 2007 Edition) or in other Contract Documents are applicable to the Bidding Documents.
- B. Addenda - Written or graphic instruments issued by the Architect before the acceptance of Bids that modify or interpret the Bidding Documents, including drawings and Project Manual by additions, deletions, clarifications, or corrections. Addenda become part of the Contract Documents when the Owner accepts the Bid, as well as part of the Bidding Documents.

- C. Alternate Bid (or Alternate) - an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in project scope or materials or methods of construction described in the Bidding Documents is accepted.
- D. Base Bid - the sum stated in the Bid for which the Bidder offers to perform the Work described as the Base, to which Work may be added or deducted for sums stated in Alternate Bids.
- E. Bid - a Bidder's complete and properly signed proposal to do the Work or designated portion thereof for the sums stipulated therein supported by data called for by the Bidding Documents.
- F. Bidder - One who submits a Bid for the Work to the Owner.
- G. Bid Documents: Contract Documents supplemented with Invitation To Bid, Instructions to Bidders, Bid Form, Supplements To Bid Forms and Appendices identified including any addenda issued prior to receipt of bids.
- H. Bid Security - A Bid Bond with a Surety licensed in the State of Kansas.
- I. Contract - Standard Form of Agreement Between Owner and Contractor (AIA Document A101 - 2017 Edition), as supplemented, together with all documents incorporated therein by reference or amendment.
- J. Contract Documents: Defined in AIA A201 Article 1 including issued Addenda.
- K. Project Manual - The volume(s) which binds together the Bidding Documents, General and Supplementary Conditions, and Specifications identified for this Contract. The several parts of the volume(s) are listed in the Table of Contents of the volume(s).
- L. Sub-bidder (or Sub-contractor) - One who submits a bid to a Bidder for materials and/or labor for a portion of the Work.
- M. Unit Price - an amount stated in the Bid as a price per unit of measurement for materials or services as described in the Contract Documents

2.02 CONTRACT DOCUMENTS IDENTIFICATION

- A. The Contract Documents are identified as Project Number #5407.50, as prepared by Schaefer<>who is located at 257 N. Broadway, Wichita, KS, 67202 and with contents as identified in the Table of Contents.

2.03 EXAMINATION

- A. Bid Documents are on display at the offices of the following construction plan rooms:
 - 1. The Builder's Association 720 Oak Street Kansas City MO 64106 phone (816) 595-4157 www.buildersassociation.org.
 - 2. Kansas Construction News, 230 Laura Suite 101, Wichita, KS 67201, phone (316) 263-0265, kcnr@kcnr.net, www.kcnr.net.
- B. Upon receipt of Bid Documents verify that documents are complete. Notify Schaefer should the documents be incomplete.
- C. Immediately notify Schaefer upon finding discrepancies or omissions in the Bid Documents.

2.04 INQUIRIES

- A. Direct inquiries regarding Bidding Documents to:
 - 1. Architectural - Gary Holler, Schaefer Johnson Cox Frey Architecture, 257 N. Broadway, Wichita, KS 67202, phone (316) 684-0171, gholler@schaefer-arch.com.
 - 2. Electrical - Gary Stefan, Integrated Consulting Engineers 349 S. Hydraulic Wichita, KS 67211, gstefan@iconengineers.net.

- B. Verbal answers are not binding on any party.
- C. The Owner is not authorized to interpret the bidding documents.

2.05 BIDDING DOCUMENTS

- A. Complete sets of Bidding Documents shall be used in preparing Bids.
- B. Neither the Owner nor Schaefer assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.06 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

- A. Bidders shall promptly notify Schaefer or the Engineer of any ambiguity, inconsistency or error which they may discover upon examination of the Bidding Documents or of the site and local conditions.
- B. Bidders requiring clarification or interpretation of the Bidding Documents shall make such requests of Schaefer or the Engineer at least 10 days prior to the date for receipt of Bids in writing.
- C. Any interpretation, correction or change of the Bidding Documents will be made by Addenda only. Interpretations, corrections or changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretations, corrections and changes.

2.07 ADDENDA

- A. Addenda will be mailed to all who are known by Schaefer to have received a complete set of Bidding Documents.
- B. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file.
- C. Each Bidder shall ascertain prior to submitting its Bid that it has received all Addenda issued, and it shall acknowledge such receipt in his Bid.

2.08 PRODUCT/ASSEMBLY/SYSTEM SUBSTITUTIONS

- A. General Requirements for Substitution Requests:
 - 1. Project Manual establishes standards for products, assemblies, and systems.
 - 2. Submit requests only for elements for which substitution is specifically allowed in the Project Manual.
 - 3. Provide sufficient information to determine acceptability of proposed substitutions.
 - 4. Provide complete information on required revisions to other work to accommodate each proposed substitution.
- B. Substitution Request Time Restrictions:
 - 1. Where the Bid Documents stipulate a particular product, substitutions will be considered up to 10 days before receipt of bids.
- C. Review and Acceptance of Request:
 - 1. Schaefer may approve the proposed substitution and will issue an Addendum to known bidders.
 - 2. For approved substitutions, include representation of changes in the bid, if any, required in the work and changes to Contract Time and Contract Sum to accommodate such substitutions. A later claim by the bidder for an addition to the Contract Time or Contract Sum because of changes in work necessitated by use of substitutions will not be considered.
- D. Schaefer shall have the sole decision as to whether any submittal item is approved as been equal or acceptable.

SITE ASSESSMENT**3.01 SITE EXAMINATION**

- A. Examine the project site before submitting a bid.
- B. The bidder is required to contact Owner at the following address and phone number in order to arrange a date and time to visit the project site: type in information.

3.02 PREBID CONFERENCE

- A. A bidders conference has been scheduled for xxx a.m. on the 15th day of September, 2023 at the location of Harvey County Courthouse, Courtroom #4, 2nd Floor - Southeast Corner, 800 North Main, Newton, KS 67114.
- B. All general contract and subcontract bidders and suppliers are invited.
- C. Representatives of Schaefer will be in attendance.
- D. Attendance is NOT MANDATORY by Contractors.
- E. Information relevant to the Bid Documents will be recorded in an Addendum, issued to Bid Document recipients.

QUALIFICATIONS**4.01 EVIDENCE OF QUALIFICATIONS**

- A. To demonstrate qualification for performing the Work of this Contract, bidders may be requested to submit written evidence of financial position, previous experience, and current commitments, license to perform work in the City of State as applicable and other information required to support the Bidder's capability to fulfill the Contract if awarded the Contract.

4.02 BIDDER'S REPRESENTATION

- A. In order to induce the Owner to accept their Bid, in addition to and not in lieu of any other representations and warranties contained in the Bidding Documents, the Bidder represents and warrants the following to the Owner:
 - 1. The Bidder and their sub-contractors are financially solvent and possess sufficient working capital to complete the Work and perform all obligations hereunder;
 - 2. The Bidder is able to provide the plant, tools, materials, supplies, equipment, and labor required to complete the Work and perform the Bidders obligations hereunder;
 - 3. The Bidder is now and will continue to be authorized to do business in the State of Kansas, and is now and will continue to be properly licensed by all necessary governmental and public and quasi-public authorities having jurisdiction over the Bidder and over the Work and the Project;
 - 4. The Bid and execution of the Bidding Documents and the Bidder's performance thereunder are within the Bidders duly authorized powers;
 - 5. The Bidder has made an exhaustive study of the Bidding Documents; understands the terms and provisions thereof; and has sought or will timely seek any and all necessary clarifications prior to submitting the Bid; and that the Bid is made in accordance with the foregoing;
 - 6. The Bidder has visited the project site/existing facility and is completely familiar with the local and special conditions under which the Work is to be performed and has correlated such knowledge with the requirements of the Bidding Documents;
 - 7. The Bid is based upon the materials, systems and equipment described in the Bidding Documents without exception.

8. The Bidder certifies that his Bid is submitted without collusion, fraud, or misrepresentation as to other Bidders, so that all Bids for the project result from a free, open, and competitive bidding environment.
 9. The Bidder possesses a high level of experience and expertise in the business administration, construction management, construction, and superintendence of projects of the size, complexity, and nature of this particular project, and that the Bidder will perform the Work with care, skill, and diligence of such a Contractor;
 10. The Bidder acknowledges that the Owner is relying upon the Contractor's skill and experience in connection with the Work being bid herein;
 11. That complete sets of Bidding Documents were used in preparing the Bid and that neither the Owner nor Schaefer is responsible for errors or misinterpretations resulting from the use of incomplete sets of such documents.
- B. The foregoing warranties are in addition to, and not in lieu of any and all other liability imposed upon the Contractor by law with respect to the Contractor's duties, obligations and performance of the Work and any and all other warranties, representations and certifications made in the Bidding Documents. The Contractor's liability hereunder shall survive the Owner's final acceptance of and payment for the Work. All representations and warranties set forth herein and in the Contract Documents shall survive the final completion of the Work or the earlier termination of this Agreement.

BID SUBMISSION

5.01 SUBMISSION PROCEDURE

- A. Bidders shall be solely responsible for the delivery of their bids in the manner and time prescribed.
- B. Submit one copy of the executed offer on the Bid Forms provided, signed and sealed with the required security in a closed opaque envelope, clearly identified with bidder's name and address, project name and Owner's name on the outside.
- C. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "Bid Enclosed" on the face thereof.
- D. Deposit Bids at the designated location prior to the time and date for receipt of Bids indicated in section 00 21 13 Invitation - BID SUBMISSION, or any extension thereof made by Addenda. Bids received after the time and date for receipt of bids will be returned unopened.
- E. Improperly completed information, irregularities in bid bond, may be cause not to open the Bid Form envelope and declare the bid invalid or informal.

5.02 BID INELIGIBILITY

- A. Oral, telephonic, telegraphic, internet, e-mail, or facsimile (fax) Bids are invalid and will not receive consideration.
- B. Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, may at the discretion of the Owner, be declared unacceptable.
- C. Failure to provide security deposit, bonding or insurance requirements will, at the discretion of Owner, invalidate the bid.

BID ENCLOSURES/REQUIREMENTS

6.01 SECURITY DEPOSIT

- A. Bids shall be accompanied by a security deposit as follows:

1. **Bid Bond of a sum no less than 5 percent of the Bid Amount plus all add alternates on AIA A310 Bid Bond Form.** In the event of multiple prices in a Bid or Alternate, write for the maximum possible Contract amount.
- B. Endorse the Bid Bond in the name of the Owner as obligee, signed and sealed by the principal (General Contractor) and surety.
- C. The Owner reserves the right to retain the Bid Bond of the three lowest and best Bidders.
- D. Such Bid Bonds will be returned promptly after the Owner has issued a Notice to Proceed to the successful bidder, or within forty-five days after the opening of Bids if no Notice to Proceed has been issued, or the Owner rejects all Bids.
- E. The Bid Security will be retained by the Owner until the Contract for the project has been properly executed and as a guarantee that if awarded the Contract, the Bidder will enter into a Contract, give bonds and proof of insurance as required. In the event the successful Bidder fails to timely execute and deliver to the Owner items required by CONTRACT TIME PERIOD AND NOTICE TO PROCEED contained in section 00 21 13 - Instructions to Bidders, then such Bidder shall be deemed to have abandoned its contract with the Owner, and the Bid Security shall then be retained by the Owner as liquidated damages and not as a penalty.

6.02 INSURANCE

- A. The Contractor ("Firm"), if awarded a contract, during the performance of the services under the contract shall maintain insurance coverage reflecting the minimum amounts and conditions specified herein, and shall provide originals or certified copies of all policies, which shall be written by an insurance company authorized to do business in Kansas. Misrepresentation of any material fact, whether intentional or not, regarding the Firm's insurance coverage, policies, or capabilities may be grounds for rejection of the proposal and rescission of any awarded contract.
 1. Commercial General Liability insurance, or its equivalent, with limits not less than \$1 million per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location or be twice the required occurrence limit. Such insurance shall be endorsed to state that it is primary and shall not contribute with any insurance or self-insurance maintained by Harvey County. Such insurance shall also be endorsed to designate Harvey County, its elected and appointed officials, employees, and volunteers as additional insureds.
 2. Business automobile liability insurance with limits not less than \$1 million per occurrence. Such insurance shall include coverage for owned, non-owned, and hired automobiles.
 3. Workers' compensation insurance as required by Kansas law and Employer's Liability insurance with limits not less than \$1 million per accident for bodily injury or disease. The workers' compensation insurance shall contain an endorsement stating the insurer waives any right of subrogation against Harvey County, its elected and appointed officials, employees and volunteers.
- B. Special Provisions Applicable to All Coverages
 1. The Firm shall immediately notify Harvey County of cancellation or non-renewal.
 2. Self-insured retentions must be declared and approved by Harvey County.
- C. Evidence of Insurance
 1. Prior to commencement of work, the Firm shall furnish Harvey County with certificates and specified endorsements evidencing compliance with these insurance requirements. The Firm agrees to provide complete, certified copies of all required insurance policies if requested by Harvey County.
- D. Acceptability of Insurers

1. Any insurance placed with commercial insurers shall be placed with insurers that maintain an A.M. Best rating of A-, VII or better, or that otherwise meet the written approval of Harvey County.
- E. Subcontractors
1. The Firm shall ensure that subcontractors maintain insurance that complies with the requirements stated herein. In the event that subcontractors used by the Firm do not have insurance, or do not meet the insurance limits, Firm shall indemnify and hold harmless the County for any claims in excess of the subcontractor's insurance coverage, arising out of negligent acts, errors or omissions of the subcontractor.

6.03 INDEMNIFICATION

- A. Contractor ("Firm") shall, in addition to any obligation to indemnify Harvey County and to the fullest extent permitted by law, protect, defend, indemnify and hold harmless Harvey County, its agents, elected officials and employees from and against all claims, actions, liabilities, losses (including economic losses) and costs arising out of any actual or alleged (a) bodily injury, sickness, disease or death, or injury to or destruction of tangible property, including the loss if use resulting there from, or any other damage or loss arising out of or resulting in whole or in part from any actual or alleged act or omission of the Firm, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable in the performance of the work; (b) violation of law, statute, ordinance, governmental administrative order, rule regulation, or infringement of patent rights by Firm in the performance of the work; or (c) liens, claims or actions made by the Firm or any subcontractor under workers compensation acts' disability benefit acts, other employee benefit acts or any statutory bar.
- B. The indemnification obligations hereunder shall not be limited by any limitation on the amount, type of damages, compensation or benefits payable by or for the Firm or any subcontractor under worker's compensation acts' disability benefit acts, other employee benefit acts and any statutory bar. All expenses, including attorney's fees, incurred by Harvey County in enforcing this provision shall be borne by the Firm.

6.04 ADDITIONAL CONTRACT CLAUSES

- A. The Bidder agrees to comply with K.S.A. 44-1030.
1. The contractor shall observe the provisions of the Kansas act against discrimination and shall not discriminate against any person in the performance of work under the present contract because of race, religion, color, sex, disability, national origin or ancestry;
 2. In all solicitations or advertisements for employees, the contractor shall include the phrase, "equal opportunity employer," or a similar phrase to be approved by the commission;
 3. If the contractor fails to comply with the manner in which the contractor reports to the commission in accordance with the provisions of K.S.A. 44-1031 and amendments thereto, the contractor shall be deemed to have breached the present contract and it may be canceled, terminated or suspended, in whole or in part, by the contracting agency;
 4. If the contractor is found guilty of a violation of the Kansas act against discrimination under a decision or order of the commission which has become final, the contractor shall be deemed to have breached the present contract and it may be canceled, terminated or suspended, in whole or in part, by the contracting agency; and
 5. The contractor shall include the provisions of subsections (a) through (d) in every subcontract or purchase order so that such provisions will be binding upon such subcontractor or vendor.

6.05 BID FORM REQUIREMENTS

- A. Complete all requested information in the Bid Form and Appendices.
- B. All blanks on the Bid Form shall be filled in by typewriter or manually in ink.
- C. Where so indicated by the makeup of the Bid Form, amounts shall be expressed in both words and figures, and in case of discrepancy between the two, the written amount shall govern.

6.06 SALES TAX

- A. Sales tax to not be included in the Bid.

6.07 TIME OF COMPLETION AND LIQUIDATED DAMAGES

- A. Bidders shall begin the Work on receipt of the Notice to Proceed and shall complete the Work within the Contract Time. Work is not subjected to liquidated damages.

6.08 FEES FOR CHANGES IN THE WORK

- A. Included on the Bid Form, the overhead and profit fees on own Work and Work by subcontractors, applicable for Changes in the Work, whether additions to or deductions from the Work on which the Bid Amount is based.

6.09 BID FORM SIGNATURE

- A. The Bid Form shall be signed by the bidder, as follows:
 - 1. Each copy of Bid shall include the legal name of Bidder and a statement whether Bidder is a sole proprietor, a partnership, a corporation, or any other legal entity, and each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. Attach certifying agents authority to bind Bidder if Bid is signed by an agent for the Bidder.

6.10 MODIFICATION OR WITHDRAWAL OF BID

- A. A Bid may not be modified, withdrawn or canceled by the Bidder during the time period indicated in section 00 21 13 - Duration of Offer that a Bidder's bid security is held following the time and date designated for the receipt of Bids. The Bidder so agrees in submitting its Bid.
- B. Prior to the time and date designated for receipt of Bids, Bids submitted early may be modified or withdrawn only by notice to the party receiving Bids at the place and prior to the time designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder.
- C. Withdrawn Bids may be resubmitted up to the time designated for the receipt of bids provided that they are then fully in conformance with these Instructions to Bidders.

6.11 SELECTION AND AWARD OF Alternates

- A. Indicate variation of bid price for Alternates listed on the Bid Form. Unless otherwise indicated, indicate Alternates as a difference in bid price by adding to or deducting from the base bid price.
- B. Bids will be evaluated on the total of the base bid price and the chosen alternatives. After evaluation of the budget and the needed or priority alternates, the successful bidder will be determined.
- C. Alternates will be accepted by the Owner as indicated in Section 01 23 00 Alternates.

OFFER ACCEPTANCE/REJECTION**7.01 DURATION OF OFFER**

- A. Bids shall remain open to acceptance and shall be irrevocable for a period of forty-five (45) days after the bid closing date.

7.02 ACCEPTANCE OF OFFER

- A. Owner reserves the right to accept or reject any or all offers.
- B. Owner may waive any informality or irregularity in any bid received.
- C. Owner may reject a Bid if the Bidder failed to comply in any way with the requirements of these Bidding Documents.
- D. Owner intends to award a Contract using the following criteria:
 - 1. The Bid conforms to and has been submitted according to the requirements of the Bidding Documents,
 - 2. The Bid is judged to be reasonable,
 - 3. The Bid does not exceed the funds available,
 - 4. The Bid complies with the Instructions to Bidders,
 - 5. The completion time is satisfactory to the Owner, and
 - 6. Contractor qualifications are met.
- E. No negotiations, decisions, or actions shall be initiated by any Bidder as a result of any verbal discussion with the Owner, employee of the Owner, or Schaefer or Engineer prior to the execution of the Contract by the Owner.
- F. After acceptance by Owner, Schaefer on behalf of Owner, will issue to the successful bidder, a written Notice To Proceed.

7.03 CONTRACT TIME PERIOD AND NOTICE TO PROCEED

- A. The accepted Bidder shall assist and cooperate in preparing the Agreement and, within ten days after notification of award of Contract, execute and deliver four copies of the following required documents to Schaefer at SJCF Architecture, 257 N. Broadway, Wichita, KS 67202.
 - 1. The Contract signed by the representative with authority and ability to do so.
 - 2. Corporation Resolution of authority to sign and deliver the Contract Documents, executed by the Corporations Secretary or Assistant Secretary and dated before all other dated submittals.
 - 3. Performance and Statutory Bonds with the attached powers of attorney.
 - 4. Certificates of Insurance including Contractor' General Automotive Liability, Workers Compensation Insurance and Owner's Liability Insurance.
 - 5. List of subcontractors and major suppliers.
- B. If the preceding listed required documents are not delivered to the Owner within the ten day time limit, then such Bidder may be deemed to have abandoned its contract with the Owner, and the Owner may, solely at their discretion and without notice, award a contract to the next lowest and best bid.
- C. The Notice to Proceed will not be issued until after the Owner has received the required documents listed above and has executed the Contract. No work shall commence until after the Owner has issued a written Notice to Proceed.

- D. The successful Bidder shall not make claim either for time or money against the Owner for labor or materials performed or delivered prior to the issuance of the Notice to Proceed.

END OF SECTION

SECTION 00 41 00 - BID FORM

THE PROJECT AND THE PARTIES

1.01 FOR:

A. Project: Harvey County Courthouse - Courtroom #4 Remodel

1.02 DATE: _____ (Bidder to enter date)

1.03 SUBMITTED BY: (Bidder to enter name and address)

A.

B. Company Name _____

1.

2. Contact Person _____

3.

4. Address _____

5.

6. City, State, Zip _____

7.

8. Phone _____

9.

10. Fax _____

11.

12. Email _____

13.

1.04 OFFER

A. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by Schaefer Architecture for the above mentioned project, we, the undersigned, hereby propose to **Furnish All Materials and Equipment and to Perform All Labor** for and incidental to the Work, offer to enter into a Contract to perform the Work for the Sum of:

B.

C. _____ dollars

D.

E. (\$ _____), in lawful money of the United States of America, herein referred to as the "Base Bid".

F. We have included the required security Bid Bond as required by the Instruction to Bidders.

1.05 CONTRACT TIME

A. If this Bid is accepted, we will:

B. Complete the Work in _____ consecutive calendar days from Notice to Proceed. (Bidder to enter number of days.)

C. The applicable final completion Work shall be completed within thirty calendar days following the established date of Substantial Completion, unless specifically agreed otherwise in writing, on the Certificate of Substantial Completion.

1.06 CHANGES TO THE WORK

A. When Architect establishes that the method of valuation for Changes in the Work will be net cost plus a percentage fee in accordance with General Conditions, our percentage fee

will be:

1. Twelve percent added thereto for Overhead, Profit and General Requirements (including, but not limited to, Insurance and Bonds) on the net cost of our own Work;
2. Twelve percent added thereto for Overhead, Profit and General Requirements (including, but not limited to, Insurance and Bonds) on the cost of work done by any Subcontractor.

1.07 ADDENDA

A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.

1. Addendum # _____ Dated _____.
2. Addendum # _____ Dated _____.

1.08 SUBCONTRACTORS

A. The undersigned proposes to use the following major Sub-Contractors for the Work:

1. Electrical _____.

1.09 BID FORM SIGNATURE(S)

A. If notified of acceptance of this proposal within forth-five days after the opening of Bids, the undersigned agrees to execute a Contract with the Owner and will give bonds, in the forms required for the above stated compensation to be paid to him by the Owner.

B.

C. _____

D. (Bidder - print the full name of your firm)

E.

F. _____

G. (Authorized signing officer, Title)

H.

I.

J. Proprietorship _____

K. Partnership _____

L. Corporation _____ State of Incorporation _____ Corporation Seal

M. Other _____ Describe _____

N. Federal 1099 Reporting Number _____

O. Federal I. D. Number _____

1.10

END OF SECTION

SECTION 01 10 00 - SUMMARY**PART 1 GENERAL****1.01 PROJECT**

- A. Project Name: Harvey County Courthouse - Courtroom #4 Remodel
- B. Owner's Name: Harvey County.
- C. The Project consists of the construction of an elevated platform for a judge's desk, countertop, modesty panel/wall and door access through an existing wall.

1.02 PROJECT REQUIREMENTS**1.03 DESCRIPTION OF ALTERATIONS WORK**

- A. Scope of demolition and removal work is indicated on drawings and specified in Section 02 41 00.
- B. Renovate the following areas, complete finishes:
- C. Electrical Power: Alter existing system and add new construction, keeping existing in operation.
- D. Owner will remove the following items before start of work:
 - 1. Furniture.
- E. General Contractor shall follow guidelines of the EPA/KDHE's Lead-Based Paint Renovation, Repair and Painting Program Rule (RRP) for Child Occupied Facilities for under 6 years of age. Owner has done Lead-Based Paint testing and the results are included.
 - 1. General Contractor shall distribute the "Renovate Right" to the Owner.
 - 2. General Contractor shall use licensed firms and certified renovators to complete the removal Work.
 - 3. Provide a clearance verification per the requirements of the RRP rule.

1.04 OWNER OCCUPANCY

- A. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.
 - 1. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with the day-to-day operations of the Owner. Maintain existing exits unless otherwise indicated
 - 2. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
 - 3. Notify the Owner not less than 72 hours in advance of activities that will affect the operations of the Owner.
- B. Owner intends to occupy the Project upon Substantial Completion.
- C. Owner intends to occupy a certain portion of the Project prior to the completion date for the conduct of normal operations.
- D. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- E. Schedule the Work to accommodate Owner occupancy.

1.05 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.
 - 1. Do not disturb portions of Project site beyond areas in which the Work is indicated.

- B. Arrange use of site and premises to allow:
 - 1. Owner occupancy.
 - 2. Work by Others.
- C. Provide access to and from site as required by law and by Owner:
 - 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 - 2. Provide temporary exiting pathways where required or as indicated.
 - 3. Do not obstruct roadways, sidewalks, or other public ways without permit.
- D. Existing building spaces may not be used for storage.
- E. Time Restrictions:
 - 1. Limit conduct of especially noisy malodorous and dusty work to the hours of 7:00 am - 9:00 am and 5:00 pm - 7:00 pm, which are outside of the hours that court is held from 9:00 am - 5:00 pm.
 - 2. Limit conduct of work to the hours of 7:00 am - 7:00 pm.
- F. Utility Outages and Shutdown:
 - 1. Limit disruption of utility services to hours the building is unoccupied and as coordinated with the Owner.
 - 2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days notice to Owner and authorities having jurisdiction.
 - 3. Prevent accidental disruption of utility services to other facilities.
 - 4. Do not disrupt or shut down power to LAN/WAN systems without coordination with the Owner. It is the responsibility of the General Contractor to identify these locations with assistance from the Owner prior to starting any Work.
- G. Controlled Substances: Use of tobacco products and other controlled substances within the new or existing building or the Project site is not permitted.

1.06 PERMANENT UTILITIES

- A. Owner will pay the direct cost from the utility company for the permanent service for the following:
 - 1. Electric.
 - 2. Water.
- B. All other fees and Work shall be included in the cost of Bid.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. General administrative requirements.
- B. Copyright.
- C. AIA Documents.
- D. Preconstruction meeting.
- E. Progress meetings.
- F. Construction progress schedule.
- G. Contractor's daily reports.
- H. Progress photographs.
- I. Submittals for review, information, and project closeout.
- J. Number of copies of submittals.
- K. Requests for Interpretation (RFI) procedures.
- L. Additional Architectural or Engineering Work.
- M. Submittal procedures.

1.02 GENERAL ADMINISTRATIVE REQUIREMENTS

- A. Comply with requirements of Section 01 70 00 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.
- B. Make the following types of submittals to Schaefer:
 - 1. Requests for Interpretation (RFI).
 - 2. Requests for substitution.
 - 3. Shop drawings, product data, and samples.
 - 4. Test and inspection reports.
 - 5. Design data.
 - 6. Manufacturer's instructions and field reports.
 - 7. Applications for payment and change order requests.
 - 8. Progress schedules.
 - 9. Coordination drawings.
 - 10. Correction Punch List and Final Correction Punch List for Substantial Completion.
 - 11. Closeout submittals.

1.03 COPYRIGHT

- A. The Drawings and Project Manual of the Project are copyrighted by Schaefer and consultants. Said drawings, details and specifications shall NOT be reproduced in any manner by any contractor, sub-contractor, supplier, or manufacturer for the purpose of preparing required submittals unless specifically directed to do so by these documents.

1.04 AIA DOCUMENTS

- A. Documents of the American Institute of Architects referred to in the specifications can be purchased by the Contractors from:
 - 1. AIA Kansas, Phone (785) 357-5308 or (800) 444-9853.
- B. **Contractors are cautioned that the AIA documents required under this Contract are copyrighted by the AIA.**

PART 2 PRODUCTS - NOT USED**PART 3 EXECUTION****3.01 PRECONSTRUCTION MEETING**

- A. Schaefer will schedule a meeting after Notice of Award.
- B. Attendance Required:
 - 1. Owner.
 - 2. Schaefer.
 - 3. General Contractor.
- C. Agenda:
 - 1. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
 - 2. Designation of personnel representing the parties to Contract, _____ and Schaefer.
 - 3. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 4. Scheduling.
- D. Record minutes and distribute copies within two days after meeting to participants, with an electronic copy in PDF format to Schaefer, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the work at maximum monthly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required:
 - 1. General Contractor.
 - 2. Owner.
 - 3. Schaefer.
 - 4. General Contractor's superintendent.
 - 5. Major subcontractors.
- D. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems that impede, or will impede, planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Review of RFIs log and status of responses.
 - 7. Review of off-site fabrication and delivery schedules.
 - 8. Maintenance of progress schedule.
 - 9. Corrective measures to regain projected schedules.
 - 10. Planned progress during succeeding work period.
 - 11. Coordination of projected progress.
 - 12. Maintenance of quality and work standards.
 - 13. Effect of proposed changes on progress schedule and coordination.
 - 14. Other business relating to work.

- E. Record minutes and distribute copies within two days after meeting to participants, with an electronic copy in PDF format to Schaefer, Owner, participants, and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE

- A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of work, with a general outline for remainder of work.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
 - 1. Include written certification that major contractors have reviewed and accepted proposed schedule.
- D. Within 10 days after joint review, submit complete schedule.
- E. Submit updated schedule every 60 days.

3.04 DAILY CONSTRUCTION REPORTS

- A. Include only factual information. Do not include personal remarks or opinions regarding operations and/or personnel.
- B. Prepare a daily construction report recording the following information concerning events at Project site and project progress:
 - 1. Date.
 - 2. High and low temperatures, and general weather conditions.
 - 3. Safety, environmental, or industrial relations incidents.
 - 4. Meetings and significant decisions.
 - 5. Stoppages, delays, shortages, and losses. Include comparison between scheduled work activities (in General Contractor's most recently updated and published schedule) and actual activities. Explain differences, if any. Note days or periods when no work was in progress and explain the reasons why.
 - 6. Testing and/or inspections performed.
 - 7. Signature of General Contractor's authorized representative.

3.05 PROGRESS PHOTOGRAPHS

- A. Photography Type: Digital; electronic files.
- B. Provide photographs of site and construction. Take photographs during construction activities where work will be concealed and throughout progress of Work. Photographs may be used to establish location and arrangement of concealed elements such as plumbing systems. These shall be part of the record documents.
- C. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
 - 1. Delivery Medium: Jump drive.
 - 2. File Naming: Include project identification, date and time of view, and view identification.

3.06 REQUESTS FOR INTERPRETATION (RFI)

- A. Definition: A request seeking one of the following:
 - 1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is

- described differently at more than one place in Contract Documents.
2. A resolution to an issue which has arisen due to field conditions and affects design intent.
- B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.
- C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
1. Prepare a separate RFI for each specific item.
 - a. Do not forward requests which solely require internal coordination between subcontractors.
 2. Prepare using software provided by the Electronic Document Submittal Service.
 3. Combine RFI and its attachments into a single electronic file. PDF format is preferred.
- D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
1. Include in each request General Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
 2. Unacceptable Uses for RFIs: Do not use RFIs to request the following:
 - a. Approval of submittals (use procedures specified elsewhere in this section).
 - b. Approval of substitutions (see Section - 01 60 00 - Product Requirements)
 - c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
 - d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
 3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response.
 4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, the Contract Documents, with no additional input required to clarify the question. They will be returned without a response.
- E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
- F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.
- G. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
1. Indicate current status of every RFI. Update log promptly and on a regular basis.
 2. Note dates of when each request is made, and when a response is received.
- H. Review Time: Schaefer will respond and return RFIs to General Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.
- I. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in General Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.

1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.

3.07 ADDITIONAL ARCHITECTURAL OR ENGINEERING WORK

- A. Design has been based upon product and equipment data available at the time the design work was done.
- B. Any costs for modifying construction and design for substitutes shall be the responsibility of the party making or requesting the substitute for the designed product even when the substitute product is specified. Such costs shall be paid to the Owner who shall reimburse the architect and/or consultants. The rate charged by SJCF Architecture is \$100.00 per hour. Consulting Engineers standard rates apply.

3.08 SUBMITTAL SCHEDULE

- A. Items requiring color selections, including mechanical and electrical devices, will not be made until General Contractor submits all data and samples for selecting colors and finishes.

3.09 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 1. Product data.
 2. Shop drawings.
 3. Samples for selection.
 4. Samples for verification.
- B. Submit to Schaefer for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.
- C. Samples will be reviewed for aesthetic, color, or finish selection.
 1. Physical sample(s) showing the color and other physical properties is required for selection. Electronic images or PDF's will not be reviewed for sample selection. Printed cards or brochures not containing actual physical color and finish sample(s) will not be accepted.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - Closeout Submittals.

3.10 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 1. Design data.
 2. Certificates.
 3. Test reports.
 4. Inspection reports.
 5. Manufacturer's instructions.
 6. Manufacturer's field reports.
 7. Other types indicated.
- B. Submit for Schaefer's knowledge as contract administrator or for Owner.

3.11 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Final Correction Punch List for Substantial Completion.

- B. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 78 00 - Closeout Submittals:
 - 1. Project record documents.
 - 2. Operation and maintenance data.
 - 3. Warranties.
 - 4. Other types as indicated.
- C. Submit for benefit of the Owner during and after project completion.

3.12 NUMBER OF COPIES OF SUBMITTALS

- A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.
- B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Schaefer.
 - 1. Retained samples will not be returned to General Contractor unless specifically so stated.

3.13 SUBMITTAL PROCEDURES

- A. General Requirements:
 - 1. Use a separate transmittal for each item.
 - 2. Transmit using approved form.
 - a. Use form generated by Electronic Document Submittal Service software.
 - 3. Identify: Project; General Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
 - 4. Apply General Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
 - a. Submittals from sources other than the General Contractor, or without General Contractor's stamp will not be acknowledged, reviewed, or returned.
 - 5. Schedule submittals to expedite the Project, and coordinate submission of related items.
 - a. For each submittal for review, allow 15 days time to and from the General Contractor.
 - b. For sequential reviews involving Schaefer's consultants, Owner, or another affected party, allow an additional 7 days.
 - 6. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
 - 7. Provide space for General Contractor and Schaefer review stamps.
 - 8. When revised for resubmission, identify all changes made since previous submission.
 - 9. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
 - 10. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.
- B. Product Data Procedures:
 - 1. Submit only information required by individual specification sections.
 - 2. Collect required information into a single submittal.
 - 3. Do not submit (Material) Safety Data Sheets for materials or products.
- C. Shop Drawing Procedures:

1. Digital Data Files: Electronic copies of CAD drawings or Building Information Model of the Contract Drawings will be provided by Schaefer, Engineers or Consultants for Contractor's use in preparing submittals as follows.
 - a. Cost for each CAD sheet is \$150.00.
 - b. Cost for Navisworks model is \$300.00.
 - c. Contractor to sign Electronic Release Form and pay Schaefer prior to receiving CAD sheet(s) or Navisworks model.
 - d. Schaefer makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
2. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
3. Do not reproduce Contract Documents to create shop drawings.
4. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.

3.14 SUBMITTAL REVIEW

- A. Submittals for Review: Schaefer will review each submittal, and approve, or take other appropriate action.
- B. Submittals for Information: Schaefer will acknowledge receipt and review. See below for actions to be taken.
- C. Schaefer's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
 1. Notations may be made directly on submitted items and/or listed on appended Submittal Review cover sheet.
- D. Schaefer's and consultants' actions on items submitted for review:
 1. Authorizing purchasing, fabrication, delivery, and installation:
 - a. "No exception taken", or language with same legal meaning.
 - b. "Make corrections noted", or language with same legal meaning.
 - 1) At General Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
 - c. "Submit specified item", or language with same legal meaning.
 - 1) Submit correct item, with review notations acknowledged and incorporated. Submit separately, or as part of project record documents.
 2. Not Authorizing fabrication, delivery, and installation:
 - a. "Revise and Resubmit".
 - 1) Resubmit revised item, with review notations acknowledged and incorporated.
 - b. "Rejected".
 - 1) Submit item complying with requirements of Contract Documents.
- E. Schaefer's and consultants' actions on items submitted for information:
 1. Items for which no action was taken:
 - a. "Received" - to notify the General Contractor that the submittal has been received for record only.
 2. Items for which action was taken:
 3. "Reviewed" - no further action is required from General Contractor.
- F. Maintain one complete set of submittals at the Project.

END OF SECTION

SECTION 01 40 00 - QUALITY REQUIREMENTS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Submittals.
- B. Quality assurance.
- C. References and standards.
- D. Testing and inspection agencies and services.
- E. Control of installation.
- F. Tolerances.
- G. Defect Assessment.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Test Reports: After each test/inspection, promptly submit two copies of report to Schaefer and to General Contractor.
 - 1. Include:
 - a. Date issued.
 - b. Project title and number.
 - c. Name of inspector.
 - d. Date and time of sampling or inspection.
 - e. Identification of product and specifications section.
 - f. Location in the Project.
 - g. Type of test/inspection.
 - h. Date of test/inspection.
 - i. Results of test/inspection.
 - j. Compliance with Contract Documents.
 - k. When requested by Schaefer, provide interpretation of results.
 - 2. Test report submittals are for Schaefer's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.
- C. Certificates: When specified in individual specification sections, submit certification by the manufacturer and General Contractor or installation/application subcontractor to Schaefer, in quantities specified for Product Data.
 - 1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
 - 2. Certificates may be recent or previous test results on material or product, but must be acceptable to Schaefer.
- D. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.03 QUALITY ASSURANCE

- A. Testing Agency Qualifications:
 - 1. Prior to start of work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.

- B. Designer Qualifications: Where professional engineering design services and design data submittals are specifically required of General Contractor by Contract Documents, provide services of a Professional Engineer experienced in design of this type of work and licensed in Kansas.

1.04 REFERENCES AND STANDARDS

- A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
 - 1. If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Schaefer for a decision before proceeding. Refer instances of uncertainty as to which two levels of quantity or quality is more stringent to Schaefer for decision.
- B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- C. Should specified reference standards conflict with Contract Documents, request clarification from Schaefer before proceeding.
 - 1. Schaefer may select the more stringent of the two for the application intended.
- D. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Schaefer shall be altered from Contract Documents by mention or inference otherwise in any reference document.

1.05 TESTING AND INSPECTION AGENCIES AND SERVICES

- A. General Contractor shall employ and pay for services of an independent testing agency to perform specified testing.
- B. Employment of agency in no way relieves General Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- C. General Contractor Employed Agency:
 - 1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM C1077, and ASTM D3740.
 - 2. Inspection agency: Comply with requirements of ASTM D3740 and ASTM E329.
 - 3. Laboratory: Authorized to operate in Kansas.
 - 4. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Schaefer before proceeding.
- D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more

precise workmanship.

- E. Where drawings and/or specifications designate a standard of performance (e.g., fire rating, sound transmission class, insulation value, heating output, air velocity, etc.) the completed installation shall perform at least to the designated standard.
- F. Have work performed by persons qualified to produce required and specified quality.
- G. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- H. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Schaefer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

3.03 TESTING AND INSPECTION

- A. See individual specification sections and the drawings for testing and inspection required.
- B. Testing Agency Duties:
 - 1. Provide qualified personnel at site. Cooperate with Schaefer and General Contractor in performance of services.
 - 2. Perform specified sampling and testing of products in accordance with specified standards.
 - 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 4. Promptly notify Schaefer and General Contractor of observed irregularities or non-compliance of Work or products.
 - 5. Perform additional tests and inspections required by Schaefer.
 - 6. Submit reports of all tests/inspections specified.
- C. Limits on Testing/Inspection Agency Authority:
 - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Agency may not approve or accept any portion of the Work.
 - 3. Agency may not assume any duties of General Contractor.
 - 4. Agency has no authority to stop the Work.
- D. General Contractor Responsibilities:
 - 1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
 - 2. Cooperate with laboratory personnel, and provide access to the Work.
 - 3. Provide incidental labor and facilities:
 - a. To provide access to Work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
 - c. To facilitate tests/inspections.
 - d. To provide storage and curing of test samples.
 - 4. Notify Schaefer and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.

- E. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Schaefer.
- F. Re-testing required because of non-compliance with specified requirements shall be paid for by General Contractor.

3.04 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not complying with specified requirements at Contractors expense.
- B. If, in the opinion of Schaefer, it is not practical to remove and replace the work, Schaefer will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01 41 00 - REGULATORY REQUIREMENTS**PART 1 GENERAL****1.01 SUMMARY of Reference Standards**

- A. Regulatory requirements applicable to this project are the following:
- B. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines current edition.
- C. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design 2010.
- D. 29 CFR 1910 - Occupational Safety and Health Standards current edition.
- E. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.
- F. ICC (IFC) - International Fire Code; 2012.
- G. ICC (IBC) - International Building Code; 2018.
- H. ICC (IBC) - ICC International Existing Building Code, 2018.
- I. ICC (IMC) - International Mechanical Code; 2012.
- J. NFPA 70 - National Electrical Code; 2011.
- K. ICC (IECC) - International Energy Conservation Code; 2006.
- L. Kansas Department of Health and Environment.
- M. Applicable State Statutes Annotated (K.S.A.).
- N. ASHRAE 90.1 - 2004.
- O. National Fire Protection Association, National Fire Codes.
- P. EPA/KDHE's Lead Based Paint Renovation, Repair and Painting Program Rule (RRP), K.A.R. 28-72-1 to 28-72-54 and 40 CFR part 745, 2010.
- Q. All other federal, state, county, and local requirements applicable and/or referenced.

1.02 QUALITY ASSURANCE

- A. General Contractor's Designer Qualifications: Refer to Section - 01 40 00 - Quality Requirements.

1.03 BUILDING PLAN REVIEW & PERMIT:

- A. The Owner has submitted the Bidding Documents for Code Plan Review and paid the review fee.
- B. The Building Permit(s) and all other construction fees shall be included in the cost of the Work being bid.
 - 1. Development fees charged by the city/county shall be paid for by the Owner.

PART 2 PRODUCTS - NOT USED**PART 3 EXECUTION - NOT USED****END OF SECTION**

SECTION 01 42 16 - DEFINITIONS**PART 1 GENERAL****1.01 SUMMARY**

- A. This section supplements the definitions contained in the General Conditions.
- B. Other definitions are included in individual specification sections.
- C. Specifications.
- D. Drawings.

1.02 DEFINITIONS

- A. A great amount of the specification language can be recognized as specific definitions for nominal terms found on the drawings and in other contract documents. Certain terms used more generally throughout the Contract Documents are hereby defined as follows:
- B. Directed, Requested, Etc.: Where not otherwise explained, terms such as "directed," "requested," "authorized," "selected," "approved," "required," "accepted" and "permitted" mean "directed by the Architect," "requested by the Architect," etc. However, no such implied meaning will be interpreted to extend the Architect's responsibility into the Contractor's area of construction supervision.
- C. Furnish: To supply, deliver, unload, inspect for damage and ready for unpacking, assembly and installation.
- D. General Requirements: The terms "General Requirement(s)" and "Division 1 Section(s)" are alike in meaning and significance.
- E. Guarantee and Warranty: Defined to be identical in meaning and used interchangeably.
- F. Indicated: The term "indicated" is a cross reference to details, notes, or schedules on the drawings, other paragraphs or schedules in the specifications, and similar means of recording requirements in the contract documents. Where terms such as "shown," "noted," "scheduled" and "specified" are used in lieu of "indicated," it is for the purpose of helping the reader accomplish the cross reference, and no limitation of location is intended except as specifically noted.
- G. Install, Erect, Construct, and Similar Terms: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use as part of the Work.
- H. Installer: The person or entity engaged by the Contractor or his Subcontractor or Sub-subcontractor for the performance of a particular unit of Work at the project site, including installation, erection, application, and similar required operations. It is a general requirement that Installers be recognized experts in the work they are engaged to perform.
- I. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.
- J. Project Site: The space available to the Contractor for the performance of the Work, either exclusively or in conjunction with others performing other work as part of the Project.
- K. Provide: To furnish and install, complete and ready for the intended use.
- L. Reviewed: Where used in conjunction with the Architect's or Engineer's response to submittals, requests, applications, inquiries, reports, and claims by the Contractor, the meaning of the term "reviewed" will be held to the limitations of the Architect's

responsibilities and duties as specified in the General and Supplementary Conditions and General Requirements. In no case will "reviewed" by the Architect be interpreted as an assurance to the Contractor that the requirements of the Contract Documents have been fulfilled.

- M. Supply: Same as Furnish.
- N. Testing Laboratory: An independent entity engaged to perform specific inspections or tests of the work, either at the project site or elsewhere; and to report and (if required) interpret the results of those inspections or tests.

1.03 PROJECT MANUAL

- A. The Project Manual is the volume(s) which binds together the Bidding Documents, General Conditions as Modified, and Specifications; identified for this Contract. The several parts of the volume(s) are listed in the Table of Contents of the volume(s).

1.04 SPECIFICATIONS

- A. General: This series of explanations is provided to assist the user of these specifications and associated contract documents to more readily understand the format, language, implied requirements and similar conventions of the content. None of these explanations will be interpreted to modify the substance of the requirements.
- B. Format Explanation: The format of the principal portions of specifications can be described as follows - although other portions may not fully comply and no particular significance will be attached to such compliance or noncompliance.
- C. Sections: Sections have been subdivided into 3 (or less) "parts" for uniformity and convenience (Part 1 -General, Part 2 - Products, and Part 3 - Execution). These do not imply a particular meaning and are not an integral part of the text which specified requirements.
- D. Imperative language is frequently used and, except as otherwise specified, requirements expressed imperatively are to be performed by the Contractor. For clarity of reading, contrasting subjective language is frequently used to describe the responsibilities which must be fulfilled either indirectly by the Contractor or by others.
- E. Streamlined style of the specifications results in abbreviated and incomplete sentences. Omission of words or phrases such as "the Contractor shall," "according to the plans," "a," "the," and "all" are intentional. Omitted words or phrases shall be supplied by inference in the same manner as they are when a note occurs on the drawings.
- F. Section number is for the purposes of abbreviated identification in connection with cross references. The Sections are placed in the binder(s) in sequence; however, this sequence is not complete and the Table of Contents of the Project Manual must be consulted to determine the total listing of Sections.
- G. Pages of each Section are numbered independently for each Section. The Section number is shown with the page number at the bottom of each page. "End of Section" appears on the last page of each Section. Contractor(s) shall verify that all pages of the Specifications are included.
- H. Project identification and date of publication, and revision where applicable, of the Contract Documents are recorded on each page to minimize misuse of the specifications and confusion with other project specifications.
- I. Mechanical and Electrical Provisions: Certain portions of Mechanical Work and Electrical Work of the General Requirements have been specified in their Divisions. This is for the traditional convenience and clarity of using the Contract Documents, and no other meaning will be interpreted from this arrangement of content, except as otherwise specifically indicated. They in turn reference certain other Divisions and Sections to

minimize duplication in specifications and to correlate similar work performed by different parties.

- J. Contractors are responsible for their work regardless which Section it is included in.
- K. Contractor's Options: Where more than one set of requirements are specified for a particular unit of work. The option is intended to be the Contractor's.
- L. Specifications and Drawings Complementary: What is included in one is the same as though included in the other or included in both.
- M. Overlapping Requirements and Conflicts: In the event of conflicts between the Contract Documents or between the Contract Documents and applicable standards, codes, resolutions and ordinances, the Contractor shall (1) provide the better quality or greater quantity of Work or (2) comply with the more stringent requirement; or both in accordance with the interpretation of Schaefer.
- N. Abbreviations: The language of the Specifications and elsewhere in the Contract Documents is of the abbreviated type in certain instances, and implies words and meanings which will be appropriately interpreted. Actual word abbreviations of a self-explanatory nature have been included in the text. Trade associations and general standards are frequently abbreviated. Singular words will be interpreted as plural and plural words will be interpreted as singular wherever applicable and the full context of the requirement so indicated.

1.05 DRAWINGS

- A. Not all conditions have been detailed although such work is a part of the Contract.
- B. In lieu of details, some work may require conformance with written instructions, notes, and/or standards. Such work is a part of the Contract.
- C. Do not scale drawings for dimensions. Accurately layout such work from dimensions indicated unless such be found in error.
- D. Where drawings indicate a portion of the work and the remainder is shown in outline. The parts drawn out apply to other like portions of the work. Where detail is indicated by starting, only, such detail shall continue to apply throughout the courses or parts in which it occurs and apply to similar parts of work unless otherwise indicated.
- E. Details indicate the general application of work at all locations where it logically applies. Provide other related work incident thereto to fully complete the work consistent with the detail, other related details, and actual conditions.
- F. Consult Architect for interpretations concerning locations of equipment.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. General product requirements.
- B. Re-use of existing products.
- C. Transportation, handling, storage and protection.
- D. Product option requirements.
- E. Substitution limitations.
- F. Maintenance materials, including extra materials, spare parts, tools, and software.

PART 2 PRODUCTS**2.01 EXISTING PRODUCTS**

- A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.
- B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.
- C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the General Contractor; remove from site.
 - 1. The Owner has first salvage rights on materials and equipment whether identified to remain as property of the Owner or not.

2.02 NEW PRODUCTS

- A. Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
- B. Use of products having any of the following characteristics is not permitted:
 - 1. Containing lead, cadmium, or asbestos.

2.03 PRODUCT OPTIONS

- A. General: The specifying of particular products, materials and systems is done to establish a minimum standard of performance, quality, type and physical characteristics.
- B. Prebid approval is required for proposed materials, equipment or systems for manufacturers not specified or listed in the Contract Documents when other manufacturers and/or products are specified and there is listed a Provision for Substitutions.
- C. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- D. Products where it is specified by name, model number or series to establish quality with a Provision for Substitutions: Use product indicated. Submit a request for substitution for any product not named.
- E. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- F. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

- G. Where Contractor proposes products or systems as a "Bidders Alternate", a request for substitution is not required. Follow requirements under section 01 23 00 - Alternates.

2.04 PRODUCT OPTIONS AFTER BID

- A. After execution of contract, substitutions of materials, equipment or systems other than those specified and approved by addendum will be approved by the Schaefer only if the following are met:
1. Materials specified and ordered in a timely manner cannot be delivered to the job in time to complete the work in proper sequence.
 2. An equal or superior material is proposed.
 3. The Project cost will lower or remain unchanged.

2.05 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- B. Deliver and place in location as directed; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.02 STORAGE AND PROTECTION

- A. Provide protection of stored materials and products against theft, casualty, or deterioration.
- B. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
1. Structural Loading Limitations: Handle and store products and materials so as not to exceed static and dynamic load-bearing capacities of project floor and roof areas.
- C. Store and protect products in accordance with manufacturers' instructions.
- D. Store with seals and labels intact and legible.
- E. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.
- F. For exterior storage of fabricated products, place on sloped supports above ground.

- G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- H. Comply with manufacturer's warranty conditions, if any.
- I. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- J. Prevent contact with material that may cause corrosion, discoloration, or staining.
- K. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- L. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Examination, preparation, and general installation procedures.
- B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.
- C. Pre-installation meetings.
- D. Cutting and patching.
- E. Surveying for laying out the work.
- F. Cleaning and protection.
- G. Starting of systems and equipment.
- H. Demonstration and instruction of Owner personnel.
- I. Closeout procedures, including General Contractor's Correction Punch List, except payment procedures.
- J. General requirements for maintenance service.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Efficiency, maintenance, or safety of any operational element.
 - 3. Visual qualities of sight exposed elements.
 - 4. Work of Owner or separate Contractor.
 - 5. Include in request:
 - a. Location and description of affected work.
 - b. Necessity for cutting or alteration.
 - c. Description of proposed work and products to be used.
 - d. Date and time work will be executed.
- C. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.03 QUALIFICATIONS

- A. For demolition work, employ a firm specializing in the type of work required.
- B. For surveying work, employ a land surveyor registered in Kansas and acceptable to Schaefer. Submit evidence of surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities,

1.04 PROJECT CONDITIONS

- A. Use of explosives is not permitted.
- B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

- D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- E. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
 - 1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.
 - 2. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.
- F. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
 - 1. Minimize amount of bare soil exposed at one time.
 - 2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
 - 3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
 - 4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.
- G. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.
- H. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.
- I. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.05 COORDINATION

- A. See Section 01 10 00 for occupancy-related requirements.
- B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- C. Notify affected utility companies and comply with their requirements.
- D. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- E. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- F. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- G. Coordinate completion and clean-up of work of separate sections.
- H. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS**2.01 PATCHING MATERIALS**

- 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.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

- A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific section.
- C. Notify Schaefer four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of examination, preparation and installation procedures.
 - 2. Review coordination with related work.
- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Schaefer, Owner, participants, and those affected by decisions made.

3.04 LAYING OUT THE WORK

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Schaefer of any discrepancies discovered.

- C. General Contractor shall locate and protect survey control and reference points.
- D. Control datum for survey is that indicated on drawings.
- E. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- F. Promptly report to Schaefer the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- G. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Schaefer.
- H. Utilize recognized engineering survey practices.
- I. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
 - 1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
 - 2. Grid or axis for structures.
 - 3. Building foundation, column locations, ground floor elevations.
- J. Periodically verify layouts by same means.
- K. Maintain a complete and accurate log of control and survey work as it progresses.

3.05 ORDERING, RECEIVING, AND STORING MATERIALS

- A. Order materials in timely manner to assure delivery in ample time for orderly incorporation into the Work.
- B. On receipt of materials, check for in-transit damage in ample time to replace any damaged materials prior to installation time.
- C. Wherever possible deliver materials and equipment to project site in manufacturer's original packages, keeping labels intact until final cleaning. Where items are to be job-assembled, label, tag, mark or otherwise properly identify each component part until incorporated in the Work.
- D. Store materials in a manner to prevent deterioration, staining, soiling and intrusion of foreign materials. Provide waterproof well-ventilated enclosures for materials subject to deterioration by dampness. Adequately protect those materials subject to damage by freezing and frost.
- E. Remove from premises and replace with new, any materials showing deterioration or damage.

3.06 MANUFACTURER'S REQUIREMENT:

- A. All materials and equipment supplied for this building shall be installed, applied or erected in strict accordance with the manufacturer's recommendations or with manufacturer's trade association requirements unless the specifications bound herewith exceed those requirements.
 - 1. Exception: Methods or procedures, set forth in the manufacturer's recommendations which the Contractor finds unacceptable shall be submitted to Schaefer in writing for clarification.

3.07 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.
- F. Prepare all work to receive subsequent work or finish as needed and described in specifications for both substrate and subsequent products.
- G. Furnish, apply, install, connect, erect, clean and condition manufactured articles, materials, and equipment per manufacturer's printed directions. If otherwise indicated or specified, notify Schaefer well in advance of installation and prerequisite construction.
- H. Manufacturer's printed directions must be on job prior to and during installation of materials and equipment.
- I. Provide all attachment devices and materials necessary to secure materials together or to other materials and to secure work of other trades.
- J. Make allowance for ample expansion and contraction for all building components subject to same.
- K. Each trade shall build in openings required for their own work and sleeves furnished by another trade for their work and prepare openings when another trade requires and furnishes the information in a timely manner. Each trade shall be responsible for cutting into construction when they have not acted in timely manner; all in accordance with CUTTING AND PATCHING in this section. Each trade shall be responsible for filling around their work, within blockouts, sleeves, and holes for their work, to maintain the integrity (acoustic, fire, smoke, appearance, etc.) of the construction.
- L. Where proper fit of work depends upon close tolerances of manufactured products, furnish manufacturer with necessary templates to insure proper fit of all components.
- M. Install materials only when conditions of adjacent building components are conducive to achieving best installation results.
- N. Construct job assemblies accurately and as necessary for other trades having adjunct work. Correct errors in cutting, shop fabrication and installation. Where necessary to cut into other building components, do so only in a manner not to damage building structurally nor aesthetically, then repair adjoining parts and materials thoroughly and neatly.
- O. Erect, install and secure building components in a structurally sound and appropriate manner. Where necessary, temporarily brace, shore, or otherwise support members until final connection or installation. Brace walls and other structural elements to prevent damage by wind and construction operations. Leave temporary bracing, shoring, or other structural supports in place as long as necessary for safety and until structure is strong enough to withstand all loads involved.
- P. Where construction consists of a series of courses or units, assemble units in best acceptable manner to provide structurally sound installation, waterproof where exposed to exterior. Accurately plumb and level all courses and verify levels of frequent courses with instrument.
- Q. Handle materials in manner to prevent scratching, abrading, distortion, chipping, breaking or other disfigurement to those materials as well as to materials and construction already existing.
- R. Unless indicated, fabricate and install materials true to line, plumb and level. Leave finished surfaces smooth and flat or of smooth contour where indicated, free from

- wrinkles, warps, scratches, dents, and other imperfections
- S. Provide quality of workmanship not less than the commercially accepted standards of that trade.
 - T. Where obviously of best practice, furnish materials in longest practical lengths and largest practical sizes to avoid unnecessary jointing. Make all joints secure.
 - U. Consult Schaefer for mounting height or position of any unit not specifically located.
 - V. Mix no more materials than can be used before materials begin to "set". Mix no partially "set" batch with another. Clean tools and appliances prior to mixing materials that can be contaminated.
 - W. Conduct work in a manner to avoid injury to previously placed work.
 - X. Do not disturb materials requiring curing time until appropriate curing time has transpired.
 - Y. Install, connect, service, and operate permanent systems at earliest practical dates, except as may be modified by specification section 01 51 00.

3.08 ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Schaefer before disturbing existing installation.
 - 3. Beginning of alterations work constitutes acceptance of existing conditions.
- B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
 - 1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 50 00 in locations indicated on drawings.
- C. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove items indicated on drawings.
 - 2. Relocate items indicated on drawings.
 - 3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
 - 4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- D. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, Telecommunications, and LAN/WAN/Data Systems): Remove, relocate, and extend existing systems to accommodate new construction.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
 - 2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
 - 3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
 - b. Provide temporary connections as required to maintain existing systems in service.

4. Verify that abandoned services serve only abandoned facilities.
 5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings as indicated; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.
- E. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Repair adjacent construction and finishes damaged during removal work.
- F. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
1. When existing 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 Schaefer.
 2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
 3. Where a change of plane of 1/4 inch (6 mm) or more occurs in existing work, submit recommendation for providing a smooth transition for Schaefer review and request instructions.
 4. Trim existing wood doors as necessary to clear new floor finish. Refinish trim as required.
- G. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- H. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
 2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.
- I. Clean existing systems and equipment.
- J. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
- K. Do not begin new construction in alterations areas before demolition is complete.
- L. Comply with all other applicable requirements of this section.

3.09 CUTTING AND PATCHING

- A. **Prior approval for cutting and patching is required unless waived by the Schaefer.**
- B. **Approval of Schaefer to proceed with proposed cutting-and-patching does not waive right to later require complete removal and replacement of work found to be cut-and-patched in an unsatisfactory manner.**
- C. General:
1. "Cutting-and-patching" is hereby defined to include, but is not necessarily limited to; the cutting and patching of nominally completed and existing work, in order to accommodate the coordination of work, or the installation of other work, or to uncover other work for access or inspection, or to obtain samples for testing, or for repair or correction, or for similar purposes.

2. Patching also is defined as repair to new or existing landscaping or other features.
3. Existing work shall be prepared, cleaned, and patched as required for new work by appropriate trades, ready for the subsequent finishes.
4. Excavating and the associated operations of boulder removal, dewatering, bracing, removal of underground debris, penetration of rock and other barriers, backfilling, and similar work as specified in Division 31 and in other contract documents, may be required as a special form of cutting-and-patching, but is recognized primarily as an example of a related-but-separate category of work.
5. Restoring or removing and replacing non-complying work may require cutting-and-patching operations as specified herein.
6. Refer to other sections of these specifications and all drawings for ramifications regarding work necessary to accomplish installation of items shown.
7. Each trade shall be responsible for the sizing, location, timing, coordinating and cost for cutting and patching necessary to accommodate their work. Cutting and patching shall be done by individuals skilled in working the tools and materials involved.

D. Quality Assurance:

1. 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.
2. Operational and Safety Limitations: Do not cut-and-patch operational elements and safety-related components in a manner resulting in a reduction of capacities to perform in the manner intended or resulting in decreased operational life, increased maintenance, or decreased safety. Operational elements include but are not limited to the following:
 - a. Primary operational systems and equipment.
 - b. Fire separation assemblies.
 - c. Air or smoke barriers.
 - d. Fire-suppression systems.
 - e. Mechanical systems piping and ducts.
 - f. Control systems.
 - g. Fire alarm and Communication systems.
 - h. Conveying systems.
 - i. Electrical wiring systems.
 - j. Operating systems of special construction.
3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
 - a. Water, moisture, or vapor barriers.
 - b. Membranes and flashings.
 - c. Equipment supports.
 - d. Piping, ductwork, vessels, and equipment.
 - e. Noise- and vibration-control elements and systems.
4. Visual Requirements: Do not cut-and-patch work which is exposed in occupied spaces of the building, in a manner resulting in a reduction of visual qualities or resulting in substantial evidence of the cut-and-patch work, both as judged solely by the Architect. Remove and replace work judged by the Architect to be cut-and-patched in a visually unsatisfactory manner. Trade requiring cutting may use small escutcheons or similar trim at piping, ducts and the like, if permitted for new work, and not as a device to cover work which should be patched.

5. Engage the original Installer/Fabricator to perform cutting-and-patching in new construction. Engage capable personnel to perform cut-and-patch work.
- E. Submittals:
1. Unless waived by Schaefer, submit proposal well in advance of time work will be performed and request approval to proceed. Include description of why cutting-and-patching cannot (reasonably) be avoided, how it will be performed, products to be used, firms and tradesmen to perform the work, approximate dates of the work, and anticipated results in terms of variations from the work as originally completed.
 2. Schaefer may require that the Contractor provide structural engineering services through the project structural engineer at the Contractor's expense.
 3. Where applicable, include cost proposal, suggested alternatives to the cutting-and-patching procedure proposed
- F. Materials: 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, and use materials identical with the original materials where feasible and where recognized that satisfactory results can be produced thereby.
- G. Whenever possible, execute the work by methods that avoid cutting or patching.
- H. See Alterations article above for additional requirements.
- I. Perform whatever cutting and patching is necessary to:
1. Complete the work.
 2. Fit products together to integrate with other work.
 3. Provide openings for penetration of mechanical, electrical, and other services.
 4. Match work that has been cut to adjacent work.
 5. Repair areas adjacent to cuts to required condition.
 6. Repair new work damaged by subsequent work.
 7. Remove samples of installed work for testing when requested.
 8. Remove and replace defective and non-complying work.
- J. Protection: Construct barriers to separate work areas from occupied areas and to protect building occupants from danger of uncontrolled temperature and pollution. Seal openings as needed to provide such protection.
1. Ventilate areas where dust and odors are produced to the outside.
 2. Provide and maintain filters over building ventilating and return air outlets enveloped by dust enclosures when system ties into occupied areas.
- K. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- L. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
1. Minimize the use of hammering and chopping tools.
- M. Restore work with new products in accordance with requirements of Contract Documents.
- N. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- O. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of the penetrated element.
- P. Patching:

1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
2. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance unless otherwise indicated.
3. Ceilings: Patch, repair, or rehang in-place ceilings as necessary or as indicated to provide an even-plane surface of uniform appearance.
4. Match color, texture, and appearance.
5. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.
6. Restore exposed finishes of patched areas, and where necessary, extend finish restoration and new finish onto adjoining retained work, in a manner which will eliminate evidence of patching. As an example; where patch occurs in or adjacent to a painted surface, extend final paint coat over the entire unbroken surface containing the patch after patched area has received prime and base coats and whole surface prepared for painting.

3.10 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
 1. Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.11 PROTECTION OF INSTALLED WORK

- A. Protect existing construction, property and installed work from damage by construction operations, weather and its elements.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Prohibit traffic from landscaped areas.
- H. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.
- I. Remove ice and snow as necessary for safety and proper execution of Work.

- J. Brace all construction to prevent damage from wind and construction loading.
- K. Transport, handle, store and erect materials in a manner to keep them free from injury.
- L. Repair damaged materials, systems, equipment and the like. If satisfactory repair cannot be attained, replace damaged products with equally aesthetic and serviceable products, systems and equipment.
- M. Clean off any foreign materials accidentally deposited on finish surfaces and, where such would stain, corrode or otherwise disfigure, clean same immediately with material that will not damage finished work.

3.12 SYSTEM STARTUP

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Schaefer and Owner seven days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable General Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
- H. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.13 DEMONSTRATION AND INSTRUCTION

- A. See Section 01 79 00 - Demonstration and Training.

3.14 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.
- B. Adjust windows, doors, drawers, hardware, appliances, motors, valves, controls, and other equipment for proper operation.
- C. Touch up imperfections in surfaces, paint, and other finishes after all Contractors and tradesmen have completed their work.
- D. Completed work shall be thoroughly clean and free from foreign materials and stains.
- E. Clean surfaces using appropriate materials and methods that will thoroughly clean but not damage materials and their finishes, not damage or adversely affect other materials in the project.

3.15 FINAL CLEANING

- A. Execute final cleaning prior to Substantial Completion.
 - 1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.
 - 2. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
- B. Use cleaning materials that are nonhazardous.

- C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- F. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances
- G. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
- H. Replace filters of operating equipment.
- I. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, and drainage systems.
- J. Clean site; sweep paved areas, rake clean landscaped surfaces.
- K. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.16 CLOSEOUT PROCEDURES

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following:
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Advise Owner of pending utility changeover requirements if applicable.
 - 4. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 5. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 - 6. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 - 7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
 - 8. Complete final cleaning requirements, including touchup painting.
 - 9. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Make submittals that are required by governing or other authorities.
 - 1. Provide copies to Schaefer.
- C. Notify Schaefer when work is considered ready for Schaefer's Substantial Completion inspection.
- D. Submit written certification containing General Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete (by General Contractor and Subcontractors) in accordance with Contract Documents and ready for Schaefer's Substantial Completion inspection.
 - 1. Separate inspections for mechanical, electrical and general construction work and equipment shall be arranged in the same basic time period by Schaefer, engineers and consultants.
 - 2. Schaefer may decline to perform the inspection if the building (or designated portion) can not be used for the intended purpose.

3. Schaefer may also terminate the inspection at any time if the amount and/or type of incomplete work demonstrates that the building can not be used for the intended purpose without generating an inspection report.
- E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Schaefer's and General Contractor's comprehensive list of items identified to be completed or corrected and submit to Schaefer.
- F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- G. Notify Schaefer when work is considered finally complete and ready for Schaefer's Substantial Completion final inspection.
- H. Complete items of work determined by Schaefer listed in executed Certificate of Substantial Completion.
- I. All additional inspections incurred by Schaefer and/or consultants because of incomplete or unsatisfactory work will be charged to the General Contractor. Time will be billed through the Owner at \$100.00 per worker hour for time chargeable to the Project whether on site, traveling, or in office. Payments to be deducted from amounts owed to the General Contractor by the Owner without any additional action required by the Owner, Schaefer, or General Contractor.

3.17 MAINTENANCE

- A. Provide service and maintenance of components indicated in specification sections.

END OF SECTION

SECTION 01 78 00 - CLOSEOUT SUBMITTALS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties.

1.02 SUBMITTALS

- A. Project Record Documents: Submit documents to Schaefer with claim for final Application for Payment.
- B. Operation and Maintenance Data:
 - 1. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance. Submit two copies.
- C. Warranties:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
 - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.
- D. Consent of Surety to Final Payment, on AIA Form G707. Submit three copies.
- E. Contractor's Affidavit of Payment of Debts and Claims, AIA Document G706. Submit three copies.
- F. Contractor's Affidavit of Release of Liens, AIA Document G706A. Submit three copies.
- G. Contractor's Release or Waiver of Liens, conditional upon receipt of payment, on the Contractor's letterhead. Submit three copies.
 - 1. The Owner reserves the right to require any other data necessary to establish satisfactory payment of all contractual obligations.
- H. Sales Tax Exemption Certificate. Submit two copies.
- I. If required by Owner or Schaefer, one copy each of all invoices properly identified with the Sales Tax Exemption number as required by the State of Kansas. The Contractor shall retain such invoices for a period of not less than five years.
- J. For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

PART 2 PRODUCTS - NOT USED**PART 3 EXECUTION****3.01 PROJECT RECORD DOCUMENTS**

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed shop drawings, product data, and samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 2. Field changes of dimension and detail.
 - 3. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- B. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- C. Additional information as specified in individual product specification sections.

- D. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

- A. For Each Item of Equipment and Each System:
 - 1. Description of unit or system, and component parts.
 - 2. Identify function, normal operating characteristics, and limiting conditions.
 - 3. Include performance curves, with engineering data and tests.
 - 4. Complete nomenclature and model number of replaceable parts.
- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- C. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- D. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- E. Provide servicing and lubrication schedule, and list of lubricants required.
- F. Include manufacturer's printed operation and maintenance instructions.
- G. Include sequence of operation by controls manufacturer.
- H. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- I. Include test and balancing reports.
- J. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

- A. Assemble operation and maintenance data for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
- B. Where systems involve more than one specification section, provide separate tabs dividing each system.
- C. Submit operations and maintenance manuals in a PDF electronic file.
- D. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Schaefer, Consultants, General Contractor and subcontractors, with names of responsible parties.
- E. Tables of Contents: List every item by a bookmark that allows for easy access of content.
- F. Arrangement of Contents: Organize as follows:
 - 1. Project Directory.
 - 2. Table of Contents.
 - 3. Operation and Maintenance Data: Arranged by system, then by product category.
 - a. Source data.
 - b. Product data, shop drawings, and other submittals.
 - c. Operation and maintenance data.
 - d. Field quality control data.
 - e. Photocopies of warranties and bonds.

4. Design Data: To allow for addition of design data furnished by Schaefer or others, provide a bookmark "Design Data".

3.06 WARRANTIES

- A. For all pieces of operating equipment and system provided by any trade for this Project and when warranties or guarantees are otherwise specified, submit written guarantee or warranty documents which shall include the following information:
 1. Name and address of Project and Owner.
 2. Article, material or system covered.
 3. Name and address of Installing contractor.
 4. Name and address of Prime Contractor.
 5. Signature of individual authorized to sign contracts for the company issuing the guarantee.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 1. Scan warranties and assemble complete warranty submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide table of contents at beginning of document.
- D. The following terms (minimum) shall be incorporated:
 1. Duration, one year or as specified, dated from "Date of Substantial Completion." This shall be in addition to and not a limitation of other rights the Owner may have under the Contract Documents.
 2. The article, material or system is free from defective materials and workmanship.
 3. Costs of repair or replacement shall not accrue to the Owner including repair or replacement of other work disturbed by repair or replacement.
- E. Guarantees which are standard guarantees provided by a manufacturer for his product shall be received by the Contractor, filled out and filed with the company for the Owner. Certificates or registration stubs shall be included with the shop drawings submitted for the Owner upon completion of the work. The Contractor's responsibility stipulated in the paragraph before this one, terminates as stipulated therein. The Owner shall administrate manufacturer's warranties/guarantees thereafter.
- F. Co-execute submittals when required.

END OF SECTION

SECTION 02 41 00 - DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Selective demolition of building elements for alteration purposes.

1.02 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary: Limitations on General Contractor's use of site and premises.
- B. Section 01 10 00 - Summary: Description of items to be salvaged or removed for re-use by General Contractor.
- C. Section 01 60 00 - Product Requirements: Handling and storage of items removed for salvage and relocation.
- D. Section 01 70 00 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

1.03 REFERENCE STANDARDS

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards current edition.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations 2013.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Site Plan: Showing:
 - 1. Areas for temporary construction and field offices.
 - 2. Areas for temporary and permanent placement of removed materials.
- C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.05 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: Company specializing in the type of work required.
 - 1. Minimum of three years of documented experience.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 SCOPE

- A. Remove other items indicated, for salvage and relocation.
- B. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified in Section 31 20 00.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with other requirements specified in Section 01 70 00.
- B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Use of explosives is not permitted.

3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 - a. Proceed with demolition of structural framing members systematically, from higher to lower level. Complete building demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - b. Remove debris from elevated portions of the building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 - c. Remove structural framing members and lower to ground by method suitable to minimize ground impact and dust generation.
4. Provide, erect, and maintain temporary barriers and security devices.
5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
7. Do not close or obstruct roadways or sidewalks without permit.
8. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- C. Do not begin removal until receipt of notification to proceed from Owner.
- D. Do not begin removal until built elements to be salvaged or relocated have been removed.
- E. Do not begin removal until vegetation to be relocated has been removed and specified measures have been taken to protect vegetation to remain.
- F. Protect existing structures and other elements that are not to be removed.
 1. Provide bracing and shoring.
 2. Prevent movement or settlement of adjacent structures.
 3. Stop work immediately if adjacent structures appear to be in danger.
- G. Promptly repair damages caused to adjacent facilities by demolition work.
- H. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
- I. If hazardous materials are discovered during removal operations, stop work and notify Schaefer and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
- J. Perform demolition in a manner that maximizes salvage and recycling of materials.
 1. Dismantle existing construction and separate materials.
 2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.
- K. Refrigerant: Remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction before starting demolition.

3.03 EXISTING UTILITIES

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.

- D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.
- E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.
- F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- G. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone; identify and mark utilities to be subsequently reconnected, in same manner as other utilities to remain.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Schaefer before disturbing existing installation.
 - 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Demolition work for remodeling and replacement of work within existing remaining building shall be done by subcontractors and trades who shall be responsible for removing equipment and materials from the building. Except for Owner's salvage, items removed shall become the property of General Contractor. Refer Section 01 10 00, who shall also be responsible for disposing of it as waste or salvage. Owner has first salvage rights.
- C. Demolition work is not specified in detail. Much of the work will be implied by indications on the drawings. For example, removing of a wall may involve removal and patching of the surface preparatory for new finish; piping being removed to at least behind the wall surface; removal of systems extending into areas not being demolished but systems will become inoperative. Complete removal of such systems may not be required except to avoid conflict with other work and finished appearance; removal of doors will involve removing of anchorage, furring, grounds, etc.
- D. Work is shown and called out to be "removed." When the word "removed" is used without any modifiers, it shall mean that it and any associate items built with or into it shall be disconnected, removed, services terminated, or treated as otherwise noted.
- E. Where "removed" is modified those instructions shall be followed. Remaining construction shall be patched and finished equivalent to other similar and remaining work.
- F. Asbestos reports for the buildings are available for review at the District's Administration office. This information is for the use of the Contractors to avoid disturbance of any areas identified by the reports.
 - 1. General Contractor shall remove asbestos containing floor tile and asbestos containing mastic per KDHE requirements and shall obtain and pay for the cost of a Clearance by an independent testing company before tenting measures are removed. The General Contractor shall remove any non-containing asbestos mastic and prep the floor surface as required to accept the new scheduled floor finish.
 - 2. Owner shall remove asbestos containing pipe insulation.
- G. Separate areas in which demolition is being conducted from other areas that are still occupied.
 - 1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 50 00 .

- H. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove items indicated on drawings.
 - 2. Stock pile removed items such as existing ceiling tile, carpeting and trim which is removed as part of the demolition work to be used as patch materials to match surrounding surfaces where areas are indicated to be patched or filled.
- I. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
 - 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - 3. See Section 01 10 00 for other limitations on outages and required notifications.
 - 4. Verify that abandoned services serve only abandoned facilities before removal.
 - 5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings or in tunnels where indicated; remove back to source of supply where possible, otherwise cap stub and tag with identification.
- J. Protect existing work to remain.
 - 1. Prevent movement of structure; provide shoring and bracing if necessary.
 - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 - a. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces.
 - b. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 3. Repair adjacent construction and finishes damaged during removal work.
 - 4. Patch as specified for patching new work.
- K. Moveable Equipment: The Owner shall cooperate with the General Contractor and will move their property and the residents as specified in 01 10 00 Sequencing and staging requirements. The General Contractor shall schedule and coordinate the work with the Owner to allow time to accomplish the work. There may be times and situations when minimal amount of work is required that the General Contractor will find it expeditious to move furniture out of workers way. Perform such work.

3.05 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
 - 1. Legally dispose of materials in a landfill. Do not burn demolished materials.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 06 10 00 - ROUGH CARPENTRY**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Non-structural dimension lumber framing.
- B. Sheathing.
- C. Fire retardant treated wood materials.
- D. Miscellaneous framing and sheathing.
- E. Concealed wood blocking, nailers, and supports.
- F. Miscellaneous wood nailers, furring, and grounds.

1.02 REFERENCE STANDARDS

- A. ANSI A208.1 - American National Standard for Particleboard 2009.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2016a.
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2020.
- D. ASTM D2898 - Standard Test Methods for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing 2010.
- E. ASME B18.2.1 - Square, Hex, Heavy Hex, and Askew Head Bolts and Hex, Hex Flange, Lobed Head, and Lag Screws (Inch Series) 2012, Including July 2013 Errata.
- F. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength 2014, with Editorial Revision (2017).
- G. ASTM A563 - Standard Specification for Carbon and Alloy Steel Nuts 2015.
- H. ASTM A563M - Standard Specification for Carbon and Alloy Steel Nuts [Metric] 2007.
- I. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2015.
- J. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2021a.
- K. AWPA U1 - Use Category System: User Specification for Treated Wood 2012.
- L. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples 2013.
- M. PS 20 - American Softwood Lumber Standard 2010.
- N. SPIB (GR) - Grading Rules 2014.
- O. WCLIB (GR) - Standard Grading Rules for West Coast Lumber No. 17 2004, and supplements.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide technical data on sheathing, wood preservative materials, and chemical treatments as indicated below.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.

2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.
- B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, or installation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
 - a. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.
- B. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
 1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.02 DIMENSION LUMBER

- A. Sizes: Nominal sizes as indicated on drawings, S4S.
- B. Moisture Content: S-dry or MC19.
- C. Stud Framing (2 by 2 through 2 by 6 (50 by 50 mm through 50 by 150 mm)):
 1. Species: Spruce-Pine-Fir.
 2. Grade: No. 2 or better.
- D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 1. Lumber: S4S, No. 2 or Standard Grade.
 2. Boards: Standard or No. 3.

2.03 CONSTRUCTION PANELS

- A. Underlayment: APA Rated Sturd-I-Floor Underlayment; plywood, Exposure 2, 19/32 inch (15 mm) thick.

2.04 ACCESSORIES

- A. Fasteners and Anchors:
 1. Metal and Finish: Hot-dipped galvanized steel per ASTM A 153/A 153M or Type 304 stainless steel for high humidity locations, preservative-treated wood locations and

- fire-retardant treated wood locations, unfinished steel elsewhere.
2. Nails, Brads, and Staples: ASTM F1667.
 3. Power-Driven Fasteners: NES NER-272.
 4. Wood Screws: ASME B18.6.1.

2.05 FACTORY WOOD TREATMENT

A. Fire Retardant Treatment:

1. Interior Type A: AWWA U1, Use Category UCFA, Commodity Specification H, low temperature (low hygroscopic) type, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes.
 - a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
 - b. Use treatment that does not promote corrosion of metal fasteners.
 - c. Interior fire retardant treated lumber and plywood shall have equilibrium moisture content of not over 28% when tested in accordance with ASTM D3201 at 92% relative humidity.
 - d. Design Value Adjustment Factors: Treated lumber shall be tested according ASTM D5664 and design value adjustment factors shall be calculated according to ASTM D6841.
 - e. Treat rough carpentry items as indicated .
 - f. Do not use treated wood in applications exposed to weather or where the wood may become wet.

PART 3 EXECUTION

3.01 PREPARATION

- A. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.
- C. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- D. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.
- E. Fit carpentry to other construction; scribe and cope as required for accurate fit.
- F. Countersink nail heads on exposed carpentry work and fill holes with wood filler.
- G. Predrill members for fasteners when necessary to avoid splitting wood.
- H. Countersink bolt heads, nuts and washers where required. Countersink only depth needed to bring bolt head or nut flush with face of lumber maintaining as much of the secured member wood under anchorage as possible.

3.03 FRAMING INSTALLATION

- A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.
- B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of

erection and installation of permanent bracing.

- C. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AWC (WFCM) Wood Frame Construction Manual.

3.04 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
 - 1. Blocking is not required to be treated, unless in contact with concrete slab on grade.

3.05 INSTALLATION OF CONSTRUCTION PANELS

- A. Underlayment: Secure to subflooring with nails and glue.
- B. Run bottom layer of underlayment perpendicular to the framing below it. Run top layer of underlayment at a 45 degree angle to the bottom layer of underlayment.

3.06 FIRE RETARDANT TREATED PLYWOOD

- A. Lumber: Do not rip or mill fire retardant treated lumber. Cross cuts, joining cuts, and drilling holes are permitted.
- B. Plywood: Fire retardant treated plywood may be cut in any direction.

3.07 TOLERANCES

- A. Framing Members: 1/4 inch (6 mm) from true position, maximum.
- B. Surface Flatness of Floor: 1/8 inch in 10 feet (1 mm/m) maximum, and 1/4 inch in 30 feet (7 mm in 10 m) maximum.
- C. Variation from Plane (Other than Floors): 1/4 inch in 10 feet (2 mm/m) maximum, and 1/4 inch in 30 feet (7 mm in 10 m) maximum.

3.08 CLEANING

- A. Waste Disposal: Comply with the requirements of Section 01 74 19 - Construction Waste Management and Disposal.
 - 1. Comply with applicable regulations.
 - 2. Do not burn scrap on project site.
 - 3. Do not burn scraps that have been pressure treated.
 - 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
- B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 06 20 00 - FINISH CARPENTRY**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Finish carpentry items.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Support framing, grounds, and concealed blocking.
- B. Section 08 14 16 - Flush Wood Doors.
- C. Section 09 91 23 - Interior Painting: Painting and finishing of finish carpentry items.
- D. Section 09 93 00 - Staining and Transparent Finishing: Staining and transparent finishing of finish carpentry items.

1.03 REFERENCE STANDARDS

- A. ANSI A135.4 - American National Standard for Basic Hardboard 2012.
- B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards 2014.
- C. BHMA A156.9 - American National Standard for Cabinet Hardware 2010.
- D. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood 2009.
- E. NEMA LD 3 - High-Pressure Decorative Laminates 2005.
- F. NHLA G-101 - Rules for the Measurement & Inspection of Hardwood & Cypress 2011.
- G. PS 20 - American Softwood Lumber Standard 2010.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the work with electrical rough-in and installation of associated and adjacent components.
- B. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
 - 1. Scale of Drawings: 1-1/2 inch to 1 foot (125 mm to 1 m), minimum.
 - 2. Provide the information required by AWI/AWMAC/WI (AWS).
- C. Samples: Submit two samples of finish plywood, 6 inch x 6 inch (____x____ mm) in size illustrating wood grain and specified stained finish.

1.06 QUALITY ASSURANCE

- A. Grade materials in accordance with the following:
 - 1. Softwood Lumber: In accordance with rules certified by ALSC; www.alsc.org.
 - 2. Plywood: Certified by the American Plywood Association.
 - 3. Hardwood Lumber: In accordance with NHLA G-101 Grading Rules; www.natlhardwood.org.
- B. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of experience.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Protect work from moisture damage.

PART 2 PRODUCTS**2.01 WOOD-BASED COMPONENTS**

- A. Wood fabricated from old growth timber is not permitted.

2.02 LUMBER MATERIALS

- A. Hardwood Lumber: Red oak species, plain sawn, maximum moisture content of 6 percent .
 - 1. Grading: In accordance with NHLA G-101 Grading Rules; www.natlhardwood.org.

2.03 SHEET MATERIALS

- A. Hardwood Plywood: Face species red oak, plain sawn, book matched, medium density fiberboard core; HPVA HP-1 Front Face Grade AA, Back Face Grade 1, glue type as recommended for application.

2.04 FASTENINGS

- A. Adhesive for Purposes Other Than Laminate Installation: Suitable for the purpose; not containing formaldehyde or other volatile organic compounds.
- B. Fasteners: Of size and type to suit application; galvanized finish in concealed locations and SJCF to select finish in exposed locations.
- C. Concealed Joint Fasteners: Threaded steel.

2.05 ACCESSORIES

- A. Primer: as specified in Section 09 90 00.
- B. Wood Filler: Solvent base, tinted to match surface finish color.

2.06 FABRICATION

- A. Shop assemble work for delivery to site, permitting passage through building openings.
- B. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Verify adequacy of backing and support framing.
- B. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.
- C. See Section 06 10 00 - Rough Carpentry for installation of recessed wood blocking.
 - 1. Provide blocking for wood trim, wood base, etc.

3.02 INSTALLATION

- A. Install custom fabrications in accordance with AWI/AWMAC/WI (AWS) requirements for grade indicated.
- B. Set and secure materials and components in place, plumb and level.
- C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch (0.79 mm). Do not use additional overlay trim to conceal larger gaps.
- D. Cope or miter inside corners and miter outside corners to produce tight-fitting and matching profile joints.
- E. Erect, shim and fasten members securely. Where loads are applied to members, assure fastening and gluing to resist loads and movement

- F. Select adjacent transparent finish members for compatibility of grain and color.
- G. Do not use warped or twisted members.
- H. Kerf back of trim members 6 inch (152 mm) and wider.
- I. Back prime members before installing. Prime shall not interfere with finish.
- J. Joints:
 - 1. Install in longest lengths possible to minimize joints.
 - 2. Diagonally cut joints (scarf joints).
 - 3. Stagger joints with adjacent members or multi-member elements.
 - 4. Dowel or spline and glue miter joints on members 4 inch (101 mm) and wider.
 - 5. Self-miter ends of exposed transparent finished members. Opaque finished members may be profiled to match face.
- K. Fastening:
 - 1. Use blind nailing whenever possible or if using concealed fastening, provide small head fasteners.
 - 2. Set exposed fasteners to allow for wood filler.
 - 3. Cover large head screw and similar fasteners with wood matching plug interior, set flush exterior

3.03 PREPARATION FOR SITE FINISHING

- A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.
- B. Site Finishing: See Section 09 91 13 and 09 93 00.
- C. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

3.04 TOLERANCES

- A. Maximum Variation from True Position: 1/16 inch (1.6 mm).
- B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch (0.79 mm).

END OF SECTION

SECTION 07 21 00 - THERMAL INSULATION**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Sound attenuation blankets in stud cavity under raised platform.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Supporting construction for batt insulation.
- B. Section 09 21 16 - Gypsum Board Assemblies: Where sound attenuation blankets inside stud walls and partitions is scheduled.

1.03 REFERENCE STANDARDS

- A. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation 2015a.
- B. ASTM C612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation 2014.
- C. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing 2012.
- D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2021a.
- E. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials 2016.
- F. ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace At 750 Degrees C 2016.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on product characteristics and performance criteria.
- C. Manufacturer's Installation Instructions: Include information on installation techniques.

1.05 FIELD CONDITIONS

- A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

1.06 DELIVERY, STORAGE AND PROTECTION

- A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

PART 2 PRODUCTS**2.01 APPLICATIONS****2.02 BATT INSULATION MATERIALS**

Reference Applications above this section for location and thickness of each type of batt insulation.

- A. Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit.
 - 1. Material: Glass fiber.

2. Sound Attenuation Blankets: Spun Mineral Fiber, Type I (insulation without facing), Density and thickness required for STC shown.
3. Manufacturers:
 - a. CertainTeed Corporation: www.certainteed.com.
 - b. Johns Manville: www.jm.com.
 - c. Owens Corning Corporation: www.ocbuildingspec.com/#sle.
 - d. Knauf Insulation: www.knaufusa.com.
 - e. Thermafiber, Inc: www.thermafiber.com.
4. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.

3.02 BATT INSTALLATION

- A. Install insulation in accordance with manufacturer's instructions.
- B. Install in raised floor spaces without gaps or voids. Do not compress insulation.
- C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.

3.03 PROTECTION

- A. Do not permit installed insulation to be damaged prior to its concealment.

END OF SECTION

SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Hollow metal frames for wood doors.

1.02 RELATED REQUIREMENTS

- A. Section 08 71 00 - Door Hardware.
- B. Section 09 91 23 - Interior Painting: Field painting.

1.03 ABBREVIATIONS AND ACRONYMS

- A. ANSI: American National Standards Institute.
- B. ASCE: American Society of Civil Engineers.
- C. HMMA: Hollow Metal Manufacturers Association.
- D. NAAMM: National Association of Architectural Metal Manufacturers.
- E. NFPA: National Fire Protection Association.
- F. SCIF: Sensitive Compartmented Information Facility.
- G. SDI: Steel Door Institute.
- H. UL: Underwriters Laboratories.

1.04 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design 2010.
- B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors 2011.
- C. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100) 2017.
- D. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames 2011.
- E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2020.
- F. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable 2020.
- G. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength 2018a.
- H. BHMA A156.115 - American National Standard for Hardware Preparation in Steel Doors and Steel Frames 2016.
- I. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.
- J. ITS (DIR) - Directory of Listed Products current edition.
- K. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames 2002.
- L. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames 2011.
- M. NAAMM HMMA 840 - Guide Specifications For Receipt, Storage and Installation of Hollow Metal Doors and Frames 2007.
- N. NAAMM HMMA 850 - Fire-Protection and Smoke Control Rated Hollow Metal Door and Frame Products 2014.

- O. NAAMM HMMA 861 - Guide Specifications for Commercial Hollow Metal Doors and Frames 2014.
- P. NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives 2019.
- Q. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies 2017.
- R. SDI 117 - Manufacturing Tolerances for Standard Steel Doors and Frames 2013.
- S. UL (DIR) - Online Certifications Directory Current Edition.
- T. UL 10B - Standard for Fire Tests of Door Assemblies Current Edition, Including All Revisions.
- U. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies Current Edition, Including All Revisions.
- V. UL 1784 - Standard for Air Leakage Tests of Door Assemblies Current Edition, Including All Revisions.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes.
 - 1. Finish hardware supplier is to furnish templates, template reference number and/or physical hardware to the steel door and frame supplier in order to prepare the doors and frames to receive the finish hardware items.
- C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and any indicated finish requirements.
 - 1. Provide a schedule of hollow metal work using same reference numbers for details and openings as those on Drawings. Coordinate with door hardware schedule. Include fire rating locations.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years experience.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
- B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.
- C. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- D. Store hollow metal work under cover at Project site.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Hollow Metal Frames:
 - 1. Ceco Door, an Assa Abloy Group company: www.assaabloydss.com/#sle.
 - 2. Curries, an Assa Abloy Group company: www.assaabloydss.com/#sle.
 - 3. Republic Doors: www.republicdoor.com.
 - 4. Steelcraft, an Allegion brand: www.allegion.com/#sle.
 - 5. Amweld Building Products, LLC: www.amweld.com.
 - 6. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 PERFORMANCE REQUIREMENTS

- A. Requirements for Hollow Metal Frames:
 - 1. Steel Sheet: Comply with one or more of the following requirements; galvanized steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.
 - 2. Accessibility: Comply with ICC A117.1 and ADA Standards.
 - 3. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or BHMA A156.115 and ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
 - a. Frames shall be mortised for hinges. Hinge reinforcement shall be 7 gage steel, drilled and tapped. Where surface mounted hardware is to be applied, frames shall have 12 gage reinforcing plates only. Lock jambs shall be mortised for a universal lock strike. Plaster guards shall be provided.
- B. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; where two requirements conflict, comply with the most stringent.

2.03 HOLLOW METAL FRAMES

- A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.
- B. Frame Finish: Factory primed and field finished.
- C. Corners: Head and jamb members shall have diecut mitered corners that interlock rigidly prior to welding. All welds ground smooth and primed.
- D. Interior Door Frames, Non-Fire-Rated: Fully welded type, seamless with joints filled.
 - 1. Frame Metal Thickness: 16 gage, 0.053 inch (1.3 mm), minimum.
 - 2. Frame Finish: Factory primed and field finished.
- E. Frames for Wood Doors: Comply with frame requirements in accordance with corresponding door.
- F. Jamb anchors: Install 24 inch (609 mm) o.c. maximum, 3 per jamb minimum. Use type required for construction.

2.04 FINISHES

- A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.
 - 1. Prime finishes on frames shall meet the ASTM humidity, salt spray, impact and film adhesion test as required by ANSI A224.1. Shop applied red oxide primers are not acceptable.

2.05 ACCESSORIES

- A. Removable Stops: Formed sheet steel, shape as indicated on drawings, mitered or butted corners; prepared for countersink style tamper proof screws.
- B. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.
- C. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.

- B. Verify that opening sizes and tolerances are acceptable.
- C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 INSTALLATION

- A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.
- B. Coordinate frame anchor placement with wall construction.
- C. Erect frames so that the following door clearances will occur.
 - 1. 1/8 inch (3.2 mm) at head, jambs, abutting door leaves.
 - 2. 3/8 inch (9.5 mm) to hard surface flooring where no threshold is used.
 - 3. 5/8 inch (15.8 mm) at carpet and threshold to substrate floor (non-rated).
 - 4. 1/4 inch (6.3 mm) plus threshold height at fire rated doors.
- D. Install door hardware as specified in Section 08 71 00.

3.03 TOLERANCES

- A. Clearances Between Door and Frame: Comply with related requirements of specified frame standards or custom guidelines indicated in accordance with SDI 117 or NAAMM HMMA 861.
- B. Maximum Diagonal Distortion: 1/16 inch (1.6 mm) measured with straight edge, corner to corner.

3.04 ADJUSTING

- A. Adjust for smooth and balanced door movement.

3.05 SCHEDULE

- A. Refer to Door and Frame Schedule on the drawings.

END OF SECTION

SECTION 08 14 16 - FLUSH WOOD DOORS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Flush wood doors; flush configuration; non-rated.

1.02 RELATED REQUIREMENTS

- A. Section 08 11 13 - Hollow Metal Doors and Frames.
- B. Section 08 71 00 - Door Hardware.

1.03 REFERENCE STANDARDS

- A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards 2014.
- B. NFPA 80 - Standard for Fire Doors and Other Opening Protectives 2019.
- C. NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives 2019.
- D. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies 2017.
- E. UL 10B - Standard for Fire Tests of Door Assemblies Current Edition, Including All Revisions.
- F. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies Current Edition, Including All Revisions.
- G. UL 1784 - Standard for Air Leakage Tests of Door Assemblies Current Edition, Including All Revisions.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.
- C. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.
 - 1. Provide a schedule of wood doors using same reference numbers for details and openings as those on Drawings. Coordinate with door hardware schedule. Include fire rating locations.
- D. Shop Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, undercuts required, special blocking for hardware, factory finishing criteria, identify cutouts for glazing.
- E. Samples: Submit samples for selection of door veneer illustrating wood grain, stain color, and sheen.
- F. Manufacturer's Installation Instructions: Indicate special installation instructions.
- G. Specimen warranty.
- H. Warranty, executed in Owner's name.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section, with not less than three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Package, deliver and store doors in accordance with specified quality standard.
- B. Accept doors on site in manufacturer's packaging. Inspect for damage.

- C. Protect doors with resilient packaging sealed with heat shrunk plastic. Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges with tinted sealer if stored more than one week. Break seal on site to permit ventilation.

1.07 PROECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weathertight, wet work in spaces is complete and dry, HVAC system is operating and relative humidity is kept between 25 and 55 percent during the remainder of the construction period.

1.08 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Interior Doors: Provide manufacturer's warranty for "full life of installation" including hanging and finishing.
- C. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Wood Veneer Faced Doors:
 - 1. Haley Brothers: www.haleybros.com/#sle.
 - 2. Marshfield DoorSystems, Inc: www.marshfielddoors.com/#sle.
 - 3. VT Industries, Inc: www.vtindustries.com/#sle.
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 DOORS

- A. Doors: Refer to drawings for locations and additional requirements.
 - 1. Quality Standard: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS), unless noted otherwise.
 - 2. Wood Veneer Faced Doors: 5-ply or 7-ply unless otherwise indicated.
 - 3. Bond stiles and rails to core, abrasive sand core assembly to achieve uniform thickness.
- B. Interior Doors: 1-3/4 inches (44 mm) thick unless otherwise indicated; flush construction.
 - 1. Provide solid core doors at each location.
 - 2. Fire Rated Doors: Tested to ratings indicated on drawings in accordance with UL 10C - Positive Pressure; Underwriters Laboratories Inc (UL) or Intertek/Warnock Hersey (WHI) labeled without any visible seals when door is open.
 - 3. Smoke and Draft Control Doors: In addition to required fire rating, provide door assemblies tested in accordance with UL 1784 with maximum air leakage of 3.0 cfm per sq ft (0.01524 cu m/s/sq m) of door opening at 0.10 inch wg (24.9 Pa) pressure at both ambient and elevated temperatures for "S" label; if necessary, provide additional gasketing or edge sealing.
 - 4. Wood veneer facing with factory transparent finish.

2.03 DOOR AND PANEL CORES

- A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core PC or staved lumber core SLC, plies and faces as indicated.

2.04 DOOR FACINGS

- A. Veneer Facing for Transparent Finish: Red oak, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.
 - 1. Vertical Edges: Structural Composite Lumber (SCL) laminated with a matching veneer edge band. Edges to match face veneer.

2.05 DOOR CONSTRUCTION

- A. Fabricate doors in accordance with door quality standard specified.
- B. Cores Constructed with stiles and rails:
 - 1. Blocking: Provide wood blocking in particleboard-core doors as indicated below:
 - a. Top-rail Blocking: 5 inch (125 mm).
 - b. Blocking at mortise locks, if indicated on hardware schedule.
 - c. Blocking at mid rail, for doors indicated to have exit devices.
- C. Fire-Protection-Rated Doors:
 - 1. Edge Construction: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed edges.
 - 2. Pairs: Provide fire-retardant stiles that are listed and labeled for applications indicated without formed-steel edges and astragals. Provide stiles with concealed intumescent seals. Comply with specified requirements for exposed edges.
- D. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.
- E. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.
 - 1. Exception: Doors to be field finished.
- F. Provide edge clearances in accordance with the quality standard specified.

2.06 FACTORY FINISHING - WOOD VENEER DOORS

- A. Finish work in accordance with AWI/AWMAC/WI (AWS), Section 5 - Finishing for grade specified and as follows:
 - 1. Transparent:
 - a. System - 11 Polyurethane Catalyzed.
 - b. Stain: As selected by Schaefer. Match stain color on existing doors.
 - c. Sheen: Satin.
- B. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions and specified quality standard.
 - 1. Install smoke and draft control doors in accordance with NFPA 105 requirements.

- B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.
- C. Clearances: Provide 1/8 inch (3.2 mm) at heads, jambs, and between pairs of doors. Provide 3/8 inch (9.5 mm) maximum from bottom of door to top of hard floor finish. Where carpet or threshold is scheduled, provide 1/4 inch (6.4 mm) from bottom of door to top of threshold unless otherwise indicated.
- D. Use machine tools to cut or drill for hardware.
- E. Coordinate installation of doors with installation of frames and hardware.
- F. Coordinate installation of glazing.

3.03 TOLERANCES

- A. Conform to specified quality standard for fit and clearance tolerances.
- B. Conform to specified quality standard for telegraphing, warp, and squareness.
- C. Maximum Diagonal Distortion (Warp): 1/8 inch (3 mm) measured with straight edge or taut string, corner to corner, over an imaginary 36 by 84 inches (915 by 2130 mm) surface area.
- D. Maximum Vertical Distortion (Bow): 1/8 inch (3 mm) measured with straight edge or taut string, top to bottom, over an imaginary 36 by 84 inches (915 by 2130 mm) surface area.
- E. Maximum Width Distortion (Cup): 1/8 inch (3 mm) measured with straight edge or taut string, edge to edge, over an imaginary 36 by 84 inches (915 by 2130 mm) surface area.

3.04 ADJUSTING

- A. Adjust doors for smooth and balanced door movement.
- B. Adjust closers for full closure.
- C. Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing.

3.05 SCHEDULE - See Drawings

END OF SECTION

SECTION 08 71 00 - DOOR HARDWARE**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Hardware for wood doors.
- B. Thresholds.
- C. Weatherstripping and gasketing.

1.02 RELATED REQUIREMENTS

- A. Section 08 11 13 - Hollow Metal Doors and Frames.

1.03 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design 2010.
- B. BHMA A156.28 - American National Standard for Recommended Practices for Mechanical Keying Systems 2013.
- C. DHI (H&S) - Sequence and Format for the Hardware Schedule 1996.
- D. DHI (KSN) - Keying Systems and Nomenclature 1989.
- E. DHI (LOCS) - Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames 2004.
- F. DHI WDHS.3 - Recommended Locations for Architectural Hardware for Flush Wood Doors 1993; also in WDHS-1/WDHS-5 Series, 1996.
- G. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.
- H. ITS (DIR) - Directory of Listed Products current edition.
- I. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- J. NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives 2019.
- K. UL (DIR) - Online Certifications Directory Current Edition.
- L. UL 1784 - Standard for Air Leakage Tests of Door Assemblies Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.
 - 1. Coordination shall be by the General Contractor.
- B. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.
- C. No doors or frames shall be fabricated until final approval of finish hardware schedule.
- D. Door and frame supplier(s) shall notify General Contractor, Hardware Supplier, and Schaefer if any combination of the finish hardware items specified herein, requires cut-outs or other preparation which would void door warranties or fire ratings. Such notification shall be made in writing prior to fabrication of doors and frames. If such conflict occurs, Schaefer shall amend hardware schedule and/or door type as required.
- E. Keying Requirements Meeting:
 - 1. Schedule meeting at project site prior to General Contractor occupancy.
 - 2. Attendance Required:
 - a. General Contractor.

- b. Owner.
- c. Schaefer.
- d. Installer's Architectural Hardware Consultant (AHC).
- 3. Agenda:
 - a. Establish keying requirements.
 - b. Verify that keying and programming complies with project requirements.
 - c. Establish keying submittal schedule and update requirements.
- 4. Incorporate "Keying Requirements Meeting" decisions into keying submittal upon review of door hardware keying system including, but not limited to, the following:
 - a. Access control requirements.
 - b. Key control system requirements.
 - c. Flow of traffic and extent of security required.
- 5. Record minutes and distribute copies within two days after meeting to participants, with copies to Schaefer, Owner, participants, and those affected by decisions made.
- 6. Deliver established keying requirements to manufacturers.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.
- C. Shop Drawings - Door Hardware Schedule: Submit detailed listing that includes each item of hardware to be installed on each door. Use door numbering scheme as included in Contract Documents.
 - 1. Prepared by or under supervision of Architectural Hardware Consultant (AHC).
 - 2. Conform to DHI (H&S) using door numbers and hardware set numbers as indicated in construction documents.
 - 3. Schedule shall show hardware proposed for each door, hand, size of door, mounting heights of each type of hardware and material of doors and frames.
 - 4. List groups and suffixes in proper sequence.
 - 5. Provide complete description for each door listed.
 - 6. Provide manufacturer's and product names, and catalog numbers; include functions, types, styles, sizes and finishes of each item.
 - 7. Include account of abbreviations and symbols used in schedule.
- D. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
- E. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
 - 1. Include instruction booklets from packaged hardware.
 - 2. Include final hardware and keying schedule.
 - 3. Include with Operating and Maintenance manuals.
- F. Keying Schedule:
 - 1. Submit electronic copy of Keying Schedule in compliance with requirements established during Keying Requirements Meeting unless otherwise indicated.
- G. Warranty: Submit manufacturer's warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum ten years of experience.

- B. Installer Qualifications: Company specializing in performing work of the type specified for commercial door hardware with at least three years of experience.
- C. Supplier Qualifications: Company to be an authorized factory dealer for products specified herein and shall maintain warehouse facilities with complete product inventory.
 - 1. Hardware Supplier will employ full-time hardware mechanics and locksmiths which are capable of effectively servicing warranty requirements on product problems which may occur during or after construction.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Package hardware items individually; label and identify each package with door opening code to match door hardware schedule.

1.08 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Warranty against defects in material and workmanship for period indicated, from Date of Substantial Completion.
 - 1. Mortise locks and latches: Ten year, minimum
 - 2. Other Hardware: Provide a written two-year parts and labor warranty to be provided by the Hardware Supplier, minimum.

PART 2 PRODUCTS

2.01 DESIGN AND PERFORMANCE CRITERIA

- A. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.
- B. Provide individual items of single type, of same model, and by same manufacturer.
- C. Provide door hardware products that comply with the following requirements:
 - 1. Applicable provisions of federal, state, and local codes.
 - 2. Accessibility: ADA Standards and ICC A117.1.
 - 3. Hardware for Smoke and Draft Control Doors: Provide door hardware that complies with local codes, and requirements of assemblies tested in accordance with UL 1784.
- D. Lock Function: Provide lock and latch function numbers and descriptions of manufacturer's series. Refer to Door Hardware Schedule.
- E. Fasteners:
 - 1. Provide fasteners of proper type, size, quantity, and finish that comply with commercially recognized standards for proposed applications.
 - a. Aluminum fasteners are not permitted.
 - b. Provide phillips flat-head screws with heads finished to match door surface hardware unless otherwise indicated.
 - 2. Provide machine screws for attachment to reinforced hollow metal frames.
 - a. Self-drilling (Tek) type screws are not permitted.
 - 3. Provide stainless steel machine screws and lead expansion shields for concrete and masonry substrates.
 - 4. Provide wall grip inserts for hollow wall construction.
 - 5. Provide spacers or sex bolts with sleeves for through bolting of hollow metal doors, wood doors and hollow metal frames.
- F. Provide fasteners, special adjusting tools (if any) and accessories needed with scheduled hardware to permit complete operating installation.

- G. Furnish drop plates, shoe supports, blade stop spacers where required for installation of closers.

2.02 APPROVED HARDWARE

- A. Provide door hardware for each door as scheduled in the enclosed Door Hardware Schedule. Only the following manufacturer's listed, with products equivalent in function and comparable in quality to hardware schedule will be considered. Equivalent products not listed on the hardware schedule are subject to Schaefer approval.
- B. Butts: Hager, Stanley, McKinney
- C. Lockset: Schlage
- D. Flush Bolts, Stops, Push-pull: Rockwood
- E. Kick Plates, Silencers: Rockwood
- F. Thresholds: Pemko

2.03 KEY CONTROL SYSTEMS

- A. Key Control Systems: Complying with guidelines of BHMA A156.28.
 - 1. Key to existing keying system.
 - 2. Supply keys in following quantities:
 - a. 4 each Change keys for each keyed core.
 - 3. Deliver keys with identifying tags to Owner by security shipment direct from hardware supplier.
 - 4. Keys: Nickel silver, only stamped as directed by the Owner.

2.04 FINISHES

- A. Finishes: Identified in Door Hardware Schedule.
 - 1. Finishes specified are intended to indicate finish appearance. All exposed hardware shall have same appearance unless specified otherwise. Provide manufacturer's standard as closely matching exposed device finish as possible.

PART 3 EXECUTION

3.01 GENERAL

- A. Hardware Supplier shall maintain a complete inventory of replacement parts in stock for this Project during Parts and Labor Warranty period on hardware.
- B. Manufacturer shall notify General Contractor when templates and finish hardware have been shipped to other Manufacturers.
- C. Lock supplier shall deliver building keys directly to the Owner and instruct Owner in use of keys and keying system.

3.02 EXAMINATION

- A. Verify that doors and frames are ready to receive this work; labeled, fire-rated doors and frames are properly installed, and dimensions are as indicated on shop drawings.

3.03 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.
- B. Install hardware for smoke and draft control doors in accordance with NFPA 105.
- C. Use templates provided by hardware item manufacturer.
- D. Do not install surface mounted items until application of finishes to substrate are fully completed.

- E. Door Hardware Mounting Heights: Distance from finished floor to center line of hardware item.
 - 1. For Wood Doors: Install in compliance with DHI WDHS.3 recommendations.
 - 2. Mounting heights in compliance with ADA Standards:
 - a. Locksets: 40-5/16 inch (1024 mm).

3.04 ADJUSTING

- A. Adjust work under provisions of Section 01 70 00 - Execution and Closeout Requirements.
- B. Adjust hardware for smooth operation.
- C. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.
- D. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
- E. Replace units that cannot be adjusted to operate as intended.
- F. Instruct Owner's personnel in proper adjustment and maintenance of hardware and hardware finishes, during the final adjustment of hardware.

3.05 CLEANING

- A. Clean finished hardware in accordance with manufacturer's written instructions after final adjustments have been made.
- B. Clean adjacent surfaces soiled by hardware installation.
- C. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.

3.06 PROTECTION

- A. Protect finished Work under provisions of Section 01 70 00 - Execution and Closeout Requirements.
- B. Do not permit adjacent work to damage hardware or finish.

3.07 SCHEDULE

- A. Set: 1.0
- B. Doors: 100
- C. Description: Judge
- D. Qty. - Type - Model# - Finish - Manufacturer
- E. 3 - Hinge - TA2714 4-1/2" x 4-1/2" - US26D - MK
- F. 1 - Cylindrical Lock (entry) - ND53 D RHO 10-025 - 626 - SC
- G. 1 - Door Closer - 281 O - EN - SA
- H. 1 - Kick Plate - K1050 10" x 2" LDW BEV CSK - US32D - RO
- I. 1 - Wall Stop - 409 - US32D - RO
- J. 3 - Silencers - 608 - RO

END OF SECTION

SECTION 09 05 61 - COMMON WORK RESULTS FOR FLOORING PREPARATION**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. This section applies to floors identified in contract documents that are receiving the following types of floor coverings:
 - 1. Carpet tile. Match existing.
- B. Removal of existing floor coverings.
- C. General Contractor: Preparation of new and existing concrete floor slabs for installation of floor coverings.
- D. Testing of concrete floor slabs for moisture and alkalinity (pH).
- E. Patching compound.
- F. Remedial floor coatings.

1.02 REFERENCE STANDARDS

- A. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring 2021.
- B. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride 2016a.
- C. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes 2019a.
- D. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings; Resilient Floor Covering Institute October 2011.

1.03 SUBMITTALS

- A. Visual Observation Report: For existing floor coverings to be removed.
- B. Floor Covering and Adhesive Manufacturers' Product Literature: For each specific combination of substrate, floor covering, and adhesive to be used; showing:
 - 1. Moisture and alkalinity (pH) limits and test methods.
 - 2. Manufacturer's required bond/compatibility test procedure.
- C. Testing Agency's Report:
 - 1. Description of areas tested; include floor plans and photographs if helpful.
 - 2. Summary of conditions encountered.
 - 3. Moisture and alkalinity (pH) test reports.
 - 4. Copies of specified test methods.
 - 5. Submit report not more than two business days after conclusion of testing.

1.04 QUALITY ASSURANCE

- A. General Contractor may perform adhesive and bond test with General Contractor's own personnel or hire a testing agency.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, handle, and protect products in accordance with manufacturer's instructions and recommendations.
- B. Deliver materials in manufacturer's packaging; include installation instructions.
- C. Keep materials from freezing.

1.06 FIELD CONDITIONS

- A. Maintain ambient temperature in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 65 degrees F (18 degrees C) or more than 85 degrees F (30 degrees C).
- B. Maintain relative humidity in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 40 percent and not more than 60 percent.

PART 2 PRODUCTS**2.01 MATERIALS**

- A. Patching Compound:
 - 1. Cementitious moisture-, mildew-, and alkali-resistant compound, compatible with floor, floor covering, and floor covering adhesive, and capable of being feathered to nothing at edges.
 - 2. Rated for use interior and exterior.
 - 3. Calcium aluminate content; gypsum content is prohibited.
 - 4. Products:
 - a. Mapei; Mapecem QuickPatch: www.mapei.com.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Floor Leveling Compound:
 - 1. Hydraulic-cement-based, mildew-, and alkali-resistant compound, compatible with floor, floor covering, and floor covering adhesive, and capable of being feathered to nothing at edges.
 - 2. Rated for use interior and exterior.
 - 3. Products:
 - a. Mapei; Ultraplan Extreme 2: www.mapei.com.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION**3.01 CONCRETE SLAB PREPARATION**

- A. Perform following operations in the order indicated:
 - 1. Existing concrete slabs (on-grade and elevated) with existing floor coverings:
 - a. Visual observation of existing floor covering, for adhesion, water damage, alkaline deposits, and other defects.
 - b. Removal of existing floor covering.
 - 2. Preliminary cleaning.
 - 3. Moisture vapor emission tests; one in the first 1000 square feet (100 square meters) and one test in each additional 20,000 square feet (1,858 square meters), unless otherwise indicated or required by flooring manufacturer.
 - 4. Internal relative humidity tests; in same locations as moisture vapor emission tests, unless otherwise indicated.
 - 5. Alkalinity (pH) tests; in same locations as moisture vapor emission tests, unless otherwise indicated.
 - 6. Specified remediation, if required.
 - 7. Patching, smoothing, and leveling, as required.
- B. Remediations:
 - 1. Active Water Leaks or Continuing Moisture Migration to Surface of Slab: Correct this condition before doing any other remediation; re-test after correction.

3.02 REMOVAL OF EXISTING FLOOR COVERINGS

- A. Comply with local, State, and federal regulations and recommendations of RFCI Recommended Work Practices for Removal of Resilient Floor Coverings, as applicable to floor covering being removed.
- B. Dispose of removed materials in accordance with local, State, and federal regulations and as specified.

3.03 PRELIMINARY CLEANING

- A. Clean floors of dust, solvents, paint, wax, oil, grease, asphalt, residual adhesive, adhesive removers, film-forming curing compounds, sealing compounds, alkaline salts, excessive laitance, mold, mildew, and other materials that might prevent adhesive bond.
- B. Do not use solvents or other chemicals for cleaning.

3.04 MOISTURE VAPOR EMISSION TESTING

- A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.
- B. Test in accordance with ASTM F1869 and as follows.
- C. Report: Report the information required by the test method.

3.05 INTERNAL RELATIVE HUMIDITY TESTING

- A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.
- B. Test in accordance with ASTM F2170 Procedure A and as follows.
- C. Report: Report the information required by the test method.

3.06 ALKALINITY TESTING

- A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.
- B. The following procedure is the equivalent of that described in ASTM F710, repeated here for the General Contractor's convenience.
- C. Use a wide range alkalinity (pH) test paper, its associated chart, and distilled or deionized water.
- D. Place several drops of water on a clean surface of concrete, forming a puddle approximately 1 inch (25 mm) in diameter. Allow the puddle to set for approximately 60 seconds, then dip the alkalinity (pH) test paper into the water, remove it, and compare immediately to chart to determine alkalinity (pH) reading.

3.07 PREPARATION

- A. **General Contractor to prepare the sub-floor under Carpet and Tile Carpeting as follows:**
 - 1. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler.
 - 2. Fill or level cracks, holes and depressions 1/8 inch (3 mm) wide or wider, and protrusions more than 1/32 inch (0.8 mm), unless more stringent requirements are required by manufacturer's written instructions.
 - 3. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.
 - 4. Vacuum clean substrate.
- B. See individual floor covering section(s) for additional requirements.

3.08 APPLICATION OF REMEDIAL FLOOR COATING

- A. Comply with requirements and recommendations of coating manufacturer.

END OF SECTION

SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Performance criteria for gypsum board assemblies.
- B. Metal stud wall framing.
- C. Acoustic insulation.
- D. Cementitious backing board.
- E. Gypsum wallboard.
- F. Joint treatment and accessories.
- G. Bullet resistant sheathing and wallboard.

1.02 RELATED REQUIREMENTS

- A. Section 05 40 00 - Cold-Formed Metal Framing: Exterior wind-load-bearing metal stud framing.
- B. Section 06 10 00 - Rough Carpentry: Wood blocking product and execution requirements.
- C. Section 07 21 00 - Thermal Insulation: Acoustic insulation.

1.03 REFERENCE STANDARDS

- A. AISI S220 - North American Standard for Cold-Formed Steel Framing - Nonstructural Members 2015.
- B. ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire 2009a (Reapproved 2014).
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2020.
- D. ASTM A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members 2015.
- E. ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus 2019.
- F. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board 2015.
- G. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members 2014.
- H. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products 2015.
- I. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board 2013.
- J. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness 2015.
- K. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs 2014.
- L. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base 2014a.
- M. ASTM C1278/C1278M - Standard Specification for Fiber-Reinforced Gypsum Panel 2007a (Reapproved 2011).

- N. ASTM C1325 - Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units 2014.
- O. ASTM C1396/C1396M - Standard Specification for Gypsum Board 2014.
- P. ASTM C1629/C1629M - Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels 2015.
- Q. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber 2012.
- R. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2021a.
- S. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements 2009 (Reapproved 2016).
- T. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials 2015.
- U. ASTM E413 - Classification for Rating Sound Insulation 2016.
- V. GA-216 - Application and Finishing of Gypsum Board 2013.
- W. GA-226 - Application of Gypsum Board to Form Curved Surfaces; Gypsum Association 2008.
- X. GA-600 - Fire Resistance Design Manual 2015.
- Y. ITS (DIR) - Directory of Listed Products current edition.
- Z. UL (DIR) - Online Certifications Directory Current Edition.
- AA. UL 752 - Standard for Bullet-Resisting Equipment Current Edition, Including All Revisions.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.
- C. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.
- D. Test Reports: For stud framing products that do not comply with ASTM C645 or ASTM C754, provide independent laboratory reports showing maximum stud heights at required spacings and deflections.
- E. Test Reports: Bullet resistant sheathing and wallboard.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing gypsum board installation and finishing, with minimum three years of experience.
- B. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated, according to ASTM E119 by, and displaying a classification label from, an independent testing agency acceptable to the authority having jurisdiction.
 - 1. Construct fire-resistance rated partitions in compliance with tested assembly requirements indicated on drawings and the code plan.

1.06 DELIVERY, STORAGE AND PROTECTION

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

- B. Protect metal corner beads and trim from being bent or damaged.
- C. Protect cold-formed metal framing from corrosion, deformation, and other damage during delivery, storage, and handling.

1.07 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
 - 1. See PART 3 for finishing requirements.
- B. Interior Partitions, Indicated as Acoustic: Provide completed assemblies with the following characteristics:
 - 1. Acoustic Attenuation: STC as indicated calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

2.02 METAL FRAMING MATERIALS

- A. Manufacturers - Metal Framing, Connectors, and Accessories:
 - 1. ClarkDietrich Building Systems: www.clarkdietrich.com/#sle.
 - 2. Marino: www.marinoware.com.
 - 3. Phillips Manufacturing Co: www.phillipsmfg.com/#sle.
 - 4. The Steel Network: www.steelnetwork.com.
 - 5. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf (L/240 at 240 Pa).
 - 1. Coatings: Comply with ASTM C645 or AISI S220; roll-formed from hot-dipped galvanized steel; complying with ASTM A1003/A1003M and ASTM A653/A653M G40 (Z 120) or G40EQ tested according to ASTM B117 Salt Spray Test at a minimum of 120 hours. A40 Galvannealed coatings and G40e coatings are not allowed.
 - a. In wet areas: The walls enclosing shower areas/locker rooms, kitchens; Comply with ASTM C645 roll-formed from hot-dipped galvanized steel; complying with ASTM A1003/A1003M and ASTM A653/A653M G60 (Z 180). A60 Galvannealed coatings and G60e coatings are not allowed.
 - 2. Minimum Base-Metal Thickness:
 - a. Steel Studs and Runners:
 - 1) 25 gauge 0.0179 inch (0.455 mm), except 20 gauge 0.0329 inch (0.836 mm) for door and window jambs.
- C. Studs: "C" shaped with flat or formed webs with knurled faces.
- D. Loadbearing Studs for Application of Gypsum Board: As specified in Section 05 40 00.
- E. Partition Head To Structure Connections: Provide track fastened to structure with legs of sufficient length to accommodate deflection, for friction fit of studs cut short with continuous bridging located within 12 inches (305 mm) of the top of studs to provide lateral bracing.

2.03 BOARD MATERIALS

- A. Manufacturers - Gypsum-Based Board:
 - 1. American Gypsum Company: www.americangypsum.com.
 - 2. CertainTeed Corporation: www.certainteed.com.
 - 3. Georgia-Pacific Gypsum: www.gpgypsum.com.
 - 4. National Gypsum Company: www.nationalgypsum.com.
 - 5. USG Corporation: www.usg.com.
- B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
 - 1. Application: Use for vertical surfaces, ceilings, and soffits, unless otherwise indicated.
 - 2. Type: Fire-resistance rated Type X, UL (DIR) or ITS (DIR) listed.
 - 3. Thickness:
 - a. Vertical Surfaces: As scheduled or if not scheduled 5/8 inch (16 mm).
 - b. Ceilings: As scheduled or if not scheduled 5/8 inch (16 mm).
 - c. Multi-Layer Assemblies: Thicknesses as indicated on drawings.
 - 4. Edges: Tapered.
- C. Bullet Resistant Sheathing and Wallboard: Woven roving, multi-ply, ballistic grade fiberglass cloth with thermoset polyester resin; comply with UL 752 Level 1.
 - 1. Thickness: 1/4 inch (6.35 mm).
 - 2. Products:
 - a. ArmorCore by Waco Composites; Bullet Resistant Fiberglass Panels: www.armorcore.com/#sle.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.

2.04 ACCESSORIES

- A. Acoustic Insulation: As specified in Section 07 21 00.
- B. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.
 - 1. Products:
 - a. Franklin International, Inc; Titebond GREENchoice Professional Acoustical Smoke and Sound Sealant: www.titebond.com/#sle.
 - b. Tremco Acoustical Sealant; Tremco Inc.: www.tremcosealants.com.
 - c. Sheetrock Brand Acoustical Sealant; USG Corporation: www.usg.com.
 - d. SCS-100; ITW TACC: www.itwacc.com.
 - e. AC-20 FTR; Pecora Corporation: www.pecora.com.
- C. Finishing Accessories: ASTM C1047, galvanized steel, unless noted otherwise.
 - 1. Types: As detailed or required for finished appearance.
 - 2. Special Shapes: In addition to conventional corner bead and control joints, provide L-bead at exposed panel edges.
- D. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
 - 1. Tape: 2 inch (50 mm) wide, creased paper tape for joints and corners.
 - 2. Ready-mixed vinyl-based joint compound.
 - 3. Chemical hardening type compound.
- E. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inch (0.84 mm) in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.

- F. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch (0.84 to 2.84 mm) in Thickness: ASTM C954; steel drill screws, corrosion resistant.
- G. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.02 PREPARATION

- A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.

3.03 GENERAL

- A. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- B. Do not bridge building expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.
- C. Install bracing at terminations in assemblies.

3.04 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Studs: Space studs as scheduled.
 - 1. Extend partition framing to above ceiling or to deck where scheduled.
 - 2. Isolate stud system from transfer of structural loading to system, both horizontally and vertically. Provide slip or cushioned type joints to attain lateral support and avoid axial loading.
 - 3. Install runner tracks at floors, ceilings, tops of walls, and structural walls and columns where gypsum drywall stud system abuts other work, except as otherwise indicated.
 - 4. Laterally brace top of studs at 4 foot (1.2 m) o.c. if partition does not extend to overhead structure.
 - 5. Partitions Terminating at Structure: Attach extended leg top runner to structure, maintain clearance between top of studs and structure, and brace both flanges of studs with continuous bridging.
 - 6. Construct framing around plumbing fixture carriers spacing studs as necessary to fit and maintain structural integrity of the studs.
- C. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
 - 1. Erect framing for door and sidelight frames plumb.
 - 2. Frame openings with minimum base-metal thickness of 0.033 inch (0.838 mm) for double jambs and head.
 - 3. Frame duct and similar openings to within 1/4 inch (6.3 mm) of required size allowing for isolation between framing and penetrating member.
- D. Standard Wall Furring: Install at concrete and masonry walls scheduled to receive furring and gypsum board, not more than 4 inches (100 mm) from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches (600 mm) on center.

1. Orientation: Horizontal.
2. Spacing: At 16 inches on center (At 400 mm on center).
3. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by faces of adjacent framing.

3.05 ACOUSTIC ACCESSORIES INSTALLATION

- A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.
- B. Acoustic Sealant: Install in accordance with manufacturer's instructions. Install where acoustic walls are scheduled.
 1. Place one bead continuously on substrate before installation of perimeter framing members.
 2. Place continuous bead at perimeter of each layer of gypsum board.
 3. Seal around all penetrations by conduit, pipe, ducts, rough-in boxes, and control and expansion joints, except where firestopping is provided.
 - a. Apply at least 1/8 inch (3.1 mm) coating of acoustic sealant on sides and back of rough-in boxes.
 - b. Acoustic sealant work includes sealing above acoustical ceilings.
 - c. Install acoustical sealant at both faces of partitions at penetrations.

3.06 BOARD INSTALLATION

- A. Comply with ASTM C840 and GA-216. Install to minimize butt end joints, especially in highly visible locations.
 1. Do not place tapered edges against cut edges or ends.
 2. Install exposed gypsum board with face side out. Do not install imperfect, damaged or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) open space between boards. Do not force into place.
 3. Attach gypsum board to supplementary framing and blocking provided for additional support at openings and cutouts.
 4. Isolate perimeter of non-load-bearing drywall partitions at structural abutments. Provide 1/4 inch (6.3 mm) space and trim edge with L-type edge trim. Seal joints with acoustical sealant at sound-rated walls and where indicated.
 5. Fit board to ducts, pipes, outlets, etc., which are penetrating wallboard. Seal joints with acoustical sealant at sound-rated walls and where indicated.
- B. Single-Layer Non-Rated: Install gypsum board vertically, with ends and edges occurring over firm bearing.
- C. Installation on Framing: Use screws for attachment of all gypsum board .
 1. Space fasteners in gypsum boards in accordance with referenced standards and manufacturer's recommendations, except as otherwise indicated.
- D. Bullet Resistant Sheathing and Wallboard:
 1. Install bullet resistant sheathing according to manufacturer's written recommendations and with manufacturer approved fasteners.
 2. Cover all joints between boards with a 4 inch (102 mm) strip of the same thickness material as the boards, centered on the joint.

3.07 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
 1. Not more than 30 feet (10 meters) apart on walls and ceilings over 50 feet (16 meters) long.

- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials, would otherwise be exposed or not covered with other trim.

3.08 JOINT TREATMENT

- A. Paper Faced Gypsum Board: Use paper joint tape, bedded with ready-mixed or powder-type vinyl-based joint compound and finished with ready-mixed or powder-type vinyl-based joint compound.
- B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
 - 1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
 - 2. Level 2: Behind cabinetry, and on backing board to receive tile finish.
 - 3. Level 1: Wall areas above finished ceilings, whether or not accessible in the completed construction.
- C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 - 1. Feather coats of joint compound so that camber is maximum 1/32 inch (0.8 mm).
 - 2. Taping, filling and sanding is not required at base layer of double layer applications.
- D. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.09 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet (3 mm in 3 m) in any direction.

3.10 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.

END OF SECTION

SECTION 09 68 13 - TILE CARPETING**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Carpet tile, fully adhered. Match existing.
- B. Accessories

1.02 RELATED REQUIREMENTS

- A. Section 09 05 61 - Common Work Results for Flooring Preparation: Independent agency testing of concrete slabs, removal of existing floor coverings, cleaning, and preparation.

1.03 REFERENCE STANDARDS

- A. ASTM D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials 2006 (Reapproved 2011).
- B. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source 2019a, with Editorial Revision (2020).
- C. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring 2021.
- D. CRI 104 - Standard for Installation of Commercial Carpet 2015.
- E. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source 2015.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.
- C. Manufacturer's Installation Instructions: Indicate special procedures.
- D. Maintenance Data for Closeout Submittals: For carpet to include in maintenance manuals. Include the following:
 - 1. Methods for maintaining carpet, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
 - 2. Precautions for cleaning materials and methods that could be detrimental to carpet.
- E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
 - 2. Extra Carpet Tiles: 20 sq ft (1.8 sq m) of each color and pattern installed.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum three years experience.
- B. Installers: Each Installer must comply with all requirements of the Specifications and Drawings. Approved installers for this project are as follows:
 - 1. CAP Carpet, Inc.
 - 2. Carpet Value
 - 3. Country Carpet, Inc.
 - 4. Fortney Tile & Flooring Company, Inc.
 - 5. Fox Ceramic Tile, Inc.
 - 6. Interior Surface Enterprises, LLC
 - 7. Kansas Carpet & Tile Inc.
 - 8. Manhattan Carpet & Interiors, Inc.

9. Star Lumber & Supply Co., Inc.
10. Stuart & Associates Commercial Flooring
11. Vitztum Commercial Flooring, Inc.
12. Schaefer may approve additional Installers for this project based on proximity to the project site, work ethic, relevant project experience and company information. Installers seeking approval for this project shall submit AIA Document A305, Contractor's Qualification Statement to Schaefer. Requests must be received ten days prior to bid date.

1.06 FIELD CONDITIONS

- A. Do not install carpet until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at occupancy levels during the remainder of the construction period.
- B. Store materials in area of installation for minimum period of 24 hours prior to installation.
- C. Maintain 65 to 90 deg F (18 to 32 deg C) ambient temperature with a maximum relative humidity of 65%, 48 hours prior to, during and 72 hours after installation.

PART 2 PRODUCTS

2.01 MATERIALS

- A. The following carpet products are approved:
- B. Carpet: Match existing where needed. Remove and reinstall as much carpet tile as needed to complete the work. Use Owner's attic stock if the amount of salvaged carpeting is not enough. Match existing if additional is needed.

2.02 ACCESSORIES

- A. Sub-Floor Filler: White premix latex; type recommended by flooring material manufacturer.
- B. Molding and Edge Strips: Rubber or vinyl, color as selected.
 1. Install at the following locations:
 - a. Edge between carpet and exposed concrete - Johnsonite EG-XX-K or equal.
 - b. Molding between carpet and resilient tile - Johnsonite CD-XX-B or equal
 - c. Stair nosing with visually impaired strip with carpet at radius stairs/risers- Johnsonite VIVCD-XX or equal.
 - d. Stair nosing with visually impaired strip with carpet at straight stairs/risers - Johnsonite VIRCN-XX-A or equal.
 - e. Others where detailed or required.
- C. Adhesives:
 1. Compatible with materials being adhered; maximum VOC content of 50 g/L; CRI (GLP) certified; in lieu of labeled product, independent test report showing compliance is acceptable.
- D. Carpet Tile Adhesive: Recommended by carpet tile manufacturer.
 1. Water-resistant, mildew-resistant, nonstaining type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet and is recommended or provided by carpet manufacturer.

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Verify that sub-floor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive carpet tile.
- C. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to sub-floor surfaces.
 - 1. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet manufacturer.
- D. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Prepare floor substrates for installation of flooring in accordance with Section 09 05 61.

3.03 INSTALLATION

- A. Starting installation constitutes acceptance of sub-floor conditions.
- B. Install carpet tile in accordance with manufacturer's instructions and CRI 104 (Commercial).
- C. Blend carpet from different cartons to ensure minimal variation in color match.
- D. Maintain dye lot integrity. Do not mix dye lots in same room or space.
- E. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.
- F. Locate change of color or pattern between rooms under door centerline.
- G. Installation Method: Glue down; install every tile with full-spread, releasable, pressure-sensitive adhesive.
- H. Trim carpet tile neatly at walls and around interruptions.
- I. Complete installation of edge strips, concealing exposed edges.

3.04 CLEANING

- A. Remove excess adhesive without damage, from floor, base, and wall surfaces.
- B. Remove and dispose of debris and unusable scraps.
- C. Replace carpet where damaged, flawed and can't be cleaned satisfactorily.
- D. Remove yarns that protrude from carpet surface.
- E. Clean and vacuum carpet surfaces.
- F. Protect carpet against damage from construction operations and placement of equipment and fixtures during the remainder of construction period.

END OF SECTION

SECTION 09 91 23 - INTERIOR PAINTING**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Surface preparation.
- B. Field application of paints.
- C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated including the following:
 - 1. General: Paint all exposed surfaces, except as otherwise indicated, whether or not colors are designated. If not designated, match adjacent painted surface; if not in a painted surface, in general match trim color.
 - 2. Mechanical and Electrical:
 - a. In finished areas, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers brackets collars and supports, mechanical equipment, electrical equipment, and grilles registers and louvers which are not already factory pre-finished, unless otherwise indicated.
 - b. In finished areas, paint shop-primed items.
- D. Do Not Paint or Finish the Following Items:
 - 1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
 - 2. Unless otherwise indicated, shop priming of ferrous metal items and fabricated components are included under their respective trades.
 - 3. Items indicated to receive other finishes.
 - 4. Items indicated to remain unfinished.
 - 5. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
 - 6. Stainless steel, anodized aluminum, bronze, terne coated stainless steel, and lead items.
 - 7. Floors, unless specifically indicated.
 - 8. Ceramic and other tiles.
 - 9. Brick, architectural concrete, cast stone, integrally colored plaster and stucco.
 - 10. Concrete masonry units in utility, mechanical, and electrical spaces.
 - 11. Acoustical materials, unless specifically indicated.
 - 12. Concealed pipes, ducts, and conduits.

1.02 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency current edition.
- B. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials 2020.
- C. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual Current Edition.
- D. SSPC V1 (PM1) - Good Painting Practice: Painting Manual, Volume 1 Fourth Edition.
- E. SSPC V2 (PM2) - Systems and Specifications: Steel Structures Painting Manual, Volume 2 Fourth Edition.
- F. SSPC-SP 1 - Solvent Cleaning 2015.
- G. SSPC-SP 2 - Hand Tool Cleaning 2018.
- H. SSPC-SP 3 - Power Tool Cleaning 2018.

- I. SSPC-SP 6 - Commercial Blast Cleaning 2007.
- J. SSPC-SP 13 - Surface Preparation of Concrete; (Reaffirmed 2015). 2003.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide complete list of products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
 - 2. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
- C. Samples for Initial Selection: For each type of topcoat product indicated.
 - 1. Color schedules will be furnished to General Contractor, by Schaefer, before application of prime coats.
- D. Manufacturer's Instructions: Indicate special surface preparation procedures.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years experience.
- B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum three years experience.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.06 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply materials when relative humidity exceeds 85 percent; at temperatures less than 5 degrees F (3 degrees C) above the dew point; or to damp or wet surfaces.
- D. Minimum Application Temperatures for Paints: 50 degrees F (10 degrees C) for interiors unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide paints and finishes from the same manufacturer to the greatest extent possible, for interior paints.
 - 1. In the event that a single manufacturer cannot provide specified products, minor exceptions will be permitted provided approval by Schaefer is obtained using the specified procedures for substitutions.

- B. Paint "Series" are intended to specify type and quality of a paint line which includes white and tint bases. Contractor shall use proper base for color(s) selected including accent colors.
- C. Paints:
 - 1. Base Manufacturer: Sherwin-Williams Company: www.sherwin-williams.com/#sle.
 - 2. Other acceptable manufacturers equal first line products may be submitted after bidding and shall be subject to Schaefer approval:
 - 3. PPG Paints: www.ppgpaints.com/#sle.
 - 4. Glidden Professional: www.glidden.com.
 - 5. Tnemec Inc.: www.tnemec.com.
 - 6. Benjamin Moore & Co.: www.benjaminmoore.com.
 - 7. Coronado Paint: www.coronadopaint.com.
- D. Primer Sealers: Same manufacturer as top coats.
- E. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 PAINTS AND FINISHES - GENERAL

- A. Paints and Finishes: Ready mixed, unless intended to be a field-catalyzed paint.
 - 1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 - 2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
 - 3. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
 - 4. Supply each paint material in quantity required to complete entire project's work from a single production run.
 - 5. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.
- B. Volatile Organic Compound (VOC) Content:
 - 1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
 - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
 - 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
- C. Colors: To be selected from manufacturer's full range of available colors.
 - 1. Selection to be made by Schaefer after award of contract. Match existing wall color.

2.03 PAINT SYSTEMS - INTERIOR

- A. Ferrous Metal (Gloss)
 - 1. Preparation: Remove rust, clean with denatured alcohol or simple green. No mineral spirits are to be used.
 - 2. Primer Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66W1310 Series (5 mils wet, 2 mils dry).
 - 3. First Coat: S-W Pro Industrial Zero VOC Acrylic Gloss, B66-600 Series
 - 4. Final Coat: S-W Pro Industrial Zero VOC Acrylic Gloss, B66-600 Series (6 mils wet, 2.5 mils dry per coat).

5. Touch up primer (material) is specified for use on metals specified Division 05 whether topcoat is required or not.
- B. Wood - Painted (Semi-Gloss)
1. Primer Coat: S-W Premium Wall and Wood Primer, B28W8111 Series (4 mils wet, 1.8 mils dry).
 2. First Coat: S-W ProClassic Waterborne Acrylic Semi-Gloss, B31 Series.
 3. Final Coat: S-W ProClassic Waterborne Acrylic Semi-Gloss, B31 Series (4 mils wet, 1.3 mils dry per coat).
- C. Plaster or Drywall/Gypsum Board (Eg-Shel)
1. Preparation: Brush or wipe sand finish plaster surfaces to remove lightly bonded sand particles before painting.
 2. Primer Coat: S-W ProMar Zero VOC Latex Primer, B28W2600 (4 mils wet, 1 mils dry).
 3. First Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series.
 4. Final Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series (4 mils wet, 1.7 mils dry per coat).

2.04 ACCESSORY MATERIALS

- A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin application of paints and finishes until substrates have been properly prepared.
- B. Loose dirt, foreign matter, brushed or scraped off, leaving surface clean and dry before painting.
- C. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- D. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.
- E. If substrate preparation is the responsibility of another installer, notify Schaefer of unsatisfactory preparation before proceeding.
- F. Test shop-applied primer for compatibility with subsequent cover materials.
- G. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 1. Gypsum Wallboard: 12 percent.
 2. Plaster and Stucco: 12 percent.
 3. Interior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to application.
- B. Clean dust, dirt, and debris from rooms before interior painting.
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- D. Remove or repair existing paints or finishes that exhibit surface defects.

- E. Preparation of previously painted surfaces:
 - 1. Loose surface materials - scrape and brush well. Sand surface feathering edges.
 - 2. Oily films, clean with thinner and/or as specified for mildew.
 - 3. Dull high gloss surfaces.
 - 4. Remove wax with commercial stripping product.
 - 5. Rust and corrosion - sand or brush to clean metal.
 - 6. Apply primer to repaired or bare areas and finish as specified in paint systems. Apply only finish coat on solid painted surfaces.
 - 7. Paint entire surface from interior corner to interior corner where remodeling work causes patching or revision in the painted surfaces.
- F. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- G. Seal surfaces that might cause bleed through or staining of topcoat.
- H. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- I. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.
- J. Plaster: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
- K. Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

3.03 APPLICATION

- A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- B. Unless specified otherwise, apply paint with brush, spray, or roller as recommended by manufacturer to recommended thickness minimum. **Use a spray or roller application on hollow metal doors and door/window frames for a brushless finish.**
- C. Apply products in accordance with manufacturer's written instructions.
- D. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.
- E. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- F. Apply each coat to uniform appearance in thicknesses specified by manufacturer.
 - 1. 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.
- G. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.
- H. Sand wood and metal surfaces lightly between coats to achieve required finish.
- I. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- J. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- K. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from 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

3.05 PROTECTION

- A. Protect finishes until completion of project.
- B. 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 Schaefer, and leave in an undamaged condition.
- C. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

SECTION 09 93 00 - STAINING AND TRANSPARENT FINISHING**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Surface preparation.
- B. Field application of stains and transparent finishes.
- C. Scope:
 - 1. Apply transparent finish and stain to all exposed finish carpentry and trim including wood panels on architectural wood casework.
- D. Do Not Stain or Finish the Following Items:
 - 1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
 - 2. Unless otherwise indicated, shop priming of ferrous metal items and fabricated components are included under their respective trades.
 - 3. Items indicated to receive other finishes.
 - 4. Items indicated to remain unfinished.
 - 5. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
 - 6. Stainless steel, anodized aluminum, bronze, terne coated stainless steel, and lead items.
 - 7. Marble, granite, slate, and other natural stones.
 - 8. Floors, unless specifically indicated.
 - 9. Ceramic and other tiles.
 - 10. Brick, architectural concrete, cast stone, integrally colored plaster and stucco.
 - 11. Concrete masonry units in utility, mechanical, and electrical spaces.
 - 12. Acoustical materials, unless specifically indicated.
 - 13. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

- A. Section 09 91 23 - Interior Painting: Stains and transparent finishes for concrete substrates.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide complete list of products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category.
 - 2. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
- C. Samples for Initial Selection: For each type of topcoat product indicated.
 - 1. Color schedules will be furnished to General Contractor, by Schaefer, before application of prime coats.
- D. Manufacturer's Instructions: Indicate special surface preparation procedures.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years experience.
- B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum three years experience.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of stain or transparent finish, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Stain and Transparent Finish Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.06 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by manufacturer of stains and transparent finishes.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply materials when relative humidity exceeds 85 percent; at temperatures less than 5 degrees F (3 degrees C) above the dew point; or to damp or wet surfaces.
- D. Minimum Application Temperature: 50 degrees F (10 degrees C) unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS**2.01 MANUFACTURERS**

- A. Provide finishes from the same manufacturer to the greatest extent possible.
 - 1. In the event that a single manufacturer cannot provide specified products, minor exceptions will be permitted provided approval by Schaefer is obtained using the specified procedures for substitutions.
- B. Paint "Series" are intended to specify type and quality of a paint line which includes white and tint bases. Contractor shall use proper base for color(s) selected including accent colors.
- C. Transparent Finishes:
 - 1. Base Manufacturer: Sherwin-Williams Company: www.sherwin-williams.com/#sle.
 - 2. Other acceptable manufacturers equal first line products may be submitted after bidding and shall be subject to Schaefer approval:
 - 3. PPG Paints: www.ppgpaints.com/#sle.
 - 4. Glidden Professional: www.glidden.com.
 - 5. Benjamin Moore & Co.: www.benjaminmoore.com.
 - 6. Coronado Paint: www.coronadopaint.com.
- D. Stains:
 - 1. Base Manufacturer: Sherwin-Williams Company: www.sherwin-williams.com/#sle.
 - 2. Other acceptable manufacturers equal first line products may be submitted after bidding and shall be subject to Schaefer approval:
 - 3. PPG Paints: www.ppgpaints.com/#sle.
 - 4. Glidden Professional: www.glidden.com.
 - 5. Benjamin Moore & Co.: www.benjaminmoore.com.
 - 6. Coronado Paint: www.coronadopaint.com.
- E. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 Stains and Transparent FINISHES - GENERAL

- A. Finishes:
 - 1. Provide finishes capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 - 2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
 - 3. Supply each finish material in quantity required to complete entire project's work from a single production run.
 - 4. Do not reduce, thin, or dilute finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.
- B. Volatile Organic Compound (VOC) Content:
 - 1. Provide stains and transparent finishes that comply with the most stringent requirements specified in the following:
 - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
 - 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
- C. Colors: To be selected from manufacturer's full range of available colors.
 - 1. Selection to be made by Schaefer after award of contract.

2.03 Interior STAIN AND TRANSPARENT FINISH SYSTEMS

- A. Wood - Stain with Clear Finish
 - 1. First Coat: S-W Minwax Performance Series Tintable Wood Stain.
 - 2. Second Coat: S-W Polycrylic Waterbased Polyurethane, Satin
 - 3. Final Coat: S-W Polycrylic Waterbased Polyurethane, Satin (4 mils wet, 1 mil dry per coat).

2.04 ACCESSORY MATERIALS

- A. Accessory Materials: Cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of finished surfaces.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Do not begin application of stains and finishes until substrates have been properly prepared.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.
- D. If substrate preparation is the responsibility of another installer, notify Schaefer of unsatisfactory preparation before proceeding.
- E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or repair existing finishes that exhibit surface defects.
- D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- E. Seal surfaces that might cause bleed through or staining of topcoat.
- F. Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.
- G. Wood Surfaces to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.

3.03 APPLICATION

- A. Apply products in accordance with manufacturer's written instructions.
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.
- D. Sand wood surfaces lightly between coats to achieve required finish.
- E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- F. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- G. Reinstall items removed prior to finishing.

3.04 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.
- B. After completing stain and transparent finish application, clean spattered surfaces. Remove spattered stains and transparent finish by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces

3.05 PROTECTION

- A. Protect finishes until completion of project.
- B. Protect work of other trades against damage from stain and transparent finish application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Schaefer, and leave in an undamaged condition.
- C. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

SECTION 12 36 00 - COUNTERTOPS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Countertops for architectural work.

1.02 REFERENCE STANDARDS

- A. ANSI A208.1 - American National Standard for Particleboard 2009.
- B. ANSI A208.2 - American National Standard for Medium Density Fiberboard for Interior Use 2009.
- C. ASTM D570 - Standard Test Method for Water Absorption of Plastics 1998 (Reapproved 2018).
- D. ASTM D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position 2014.
- E. ASTM D785 - Standard Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials 2008.
- F. ASTM D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials 2010.
- G. ASTM D792 - Density and Specific Gravity (Relative Density) of Plastics by Displacement 2013.
- H. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2021a.
- I. AWI (QCP) - Quality Certification Program current edition at www.awiqcp.org.
- J. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards 2014.
- K. NEMA LD 3 - High-Pressure Decorative Laminates 2005.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Specimen warranty.
- C. Shop Drawings: Complete details of materials and installation .
 - 1. Show locations for plumbing fixtures, cut outs and other items installed in countertops.
- D. Selection Samples: For each finish product specified, color chips representing manufacturer's full range of available colors and patterns.
- E. Installation Instructions: Manufacturer's installation instructions and recommendations.
- F. Maintenance Data: Manufacturer's instructions and recommendations for maintenance and repair of countertop surfaces.
- G. Woodwork Quality Standard Compliance Certificates: AWI Quality Certification Program certificates, including the QCP project registration number for casework with plastic laminate countertops.

1.04 QUALITY ASSURANCE

- A. Plastic Laminate Countertops: Quality Assurance as indicated in 06 41 00 - Architectural Wood Casework.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
- C. Protect plastic laminate tops from moisture damage.
- D. Do not deliver countertops until painting, wet work, grinding, and similar operations have been completed in installation areas.

1.06 FIELD CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
 - 1. Building shall be enclosed, wet work shall be complete, and HVAC system shall be operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Field Measurements: Where countertop is indicated to be fitted to other construction, check actual dimensions of other construction by accurate field measurements before manufacturing countertop; show recorded measurements on shop drawings. Coordinate manufacturing schedule with construction progress to avoid delay of Work.
 - 1. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with manufacture of countertop without field measurements. Coordinate other construction to ensure that actual dimensions correspond to guaranteed dimensions.

PART 2 PRODUCTS**2.01 COUNTERTOPS**

- A. Quality Standard: See Section 06 41 00.
- B. Plastic Laminate Countertops: High-pressure decorative laminate (HPDL) sheet bonded to substrate.
 - 1. Laminate Sheet: NEMA LD 3, Grade HGS, 0.048 inch (1.2 mm) nominal thickness.
 - a. Manufacturers; Provide laminate from one or a combination of the following:
 - 1) Formica Corporation: www.formica.com.
 - 2) Panolam Industries International, Inc Nevamar: www.nevamar.com.
 - 3) Wilsonart: www.wilsonart.com.
 - 4) Substitutions: See Section 01 60 00 - Product Requirements.
 - b. Finish: matte.
 - c. Surface Color and Pattern: selected from manufacturer's full range of standard colors in matte finish.
 - 2. Exposed Edge Treatment: Hardwood nosing as indicated on drawings, natural spar varnish finish.
 - 3. Fabricate in accordance with AWI/AWMAC/WI (AWS), Section 11 - Countertops, Custom Grade.
 - 4. Laminate Backer: BKL, 0.020 inch (0.51 mm) nominal thickness or thickness required by AWI/AWMAC/WI (AWS) standards, undecorated; for application to concealed backside of countertop faced with high pressure decorative laminate.

2.02 MATERIALS

- A. Wood-Based Components:
 - 1. Wood fabricated from old growth timber is not permitted.

- B. Adhesives: Chemical resistant waterproof adhesive as recommended by manufacturer of materials being joined.
- C. Joint Sealant: Mildew-resistant silicone sealant, in colors matching components and as selected.

2.03 FABRICATION

- A. Fabricate laminate or wood countertops in accordance with standards governing fabrication quality that are specified in 06 41 00 - Architectural Wood Casework .
- B. Fabricate tops in the largest sections practicable, with top surface of joints flush.
 - 1. Join lengths of tops using best method recommended by manufacturer.
 - 2. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.
 - a. Manufacturer of countertop shall provide all cutouts, including mechanical and electrical service fittings and sinks.
- C. Wall-Mounted Counters: Provide brackets and braces as indicated on drawings.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Schaefer of unsatisfactory preparation before proceeding.
- C. Verify that wall surfaces have been finished and mechanical and electrical services and outlets are installed in proper locations.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

- A. Securely attach countertops to wall using concealed fasteners. Make flat surfaces level; shim where required.
 - 1. Locate field joints as shown on accepted shop drawings, factory-prepared so there is no jobsite processing of top and edge surfaces.
- B. Attach plastic laminate countertops using screws with minimum penetration into substrate board of 5/8 inch (16 mm).

3.04 TOLERANCES

- A. Variation From Horizontal: 1/8 inch in 10 feet (3 mm in 3 m), maximum.
- B. Offset From Wall, Countertops: 1/8 inch (3 mm) maximum; 1/16 inch (1.5 mm) minimum.
- C. Field Joints: Joints butted tight.

3.05 CLEANING

- A. Clean countertops surfaces thoroughly.

3.06 PROTECTION

- A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION