

PROJECT MANUAL

Bronze Door Restoration
Missouri State Capitol Building
Jefferson City, Missouri

Designed By: TreanorHL
1811 Baltimore Avenue
Kansas City, MO 64108

Date Issued: June 9, 2023

Project No.: O2203-01

STATE *of* MISSOURI

OFFICE *of* ADMINISTRATION
Facilities Management, Design & Construction

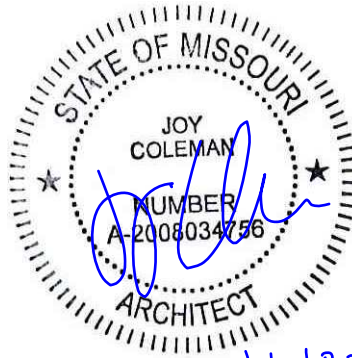
TreanorHL
June 9, 2023

HP1075.2101.00
Missouri Capitol Bronze Doors

SECTION 000107 - PROFESSIONAL SEALS AND CERTIFICATIONS

PROJECT NUMBER: O2203-01

THE FOLLOWING DESIGN PROFESSIONALS HAVE SIGNED AND SEALED THE ORIGINAL PLANS AND SPECIFICATIONS FOR THIS PROJECT, WHICH ARE ON FILE WITH THE DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION:



July 10, 2023

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****The following documents may be found on MissouriBUYS at <https://missouribuys.mo.gov/>****

004000 PROCUREMENT FORMS & SUPPLEMENTS

004113	Bid Form	*
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SECTION 000115 – LIST OF DRAWINGS

PART 1 - GENERAL

PART 2 - RELATED DOCUMENTS

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

2.2 SUMMARY

- A. This Section provides a comprehensive list of the drawings that comprise the Bid Documents for this project.

PART 3 - PRODUCTS (NOT APPLICABLE)

PART 4 - EXECUTION

PART 5 - LIST OF DRAWINGS

- A. The following list of drawings is a part of the Bid Documents:

	<u>TITLE</u>	<u>SHEET #</u>	<u>DATE</u>	<u>DWG #</u>
1.	Coversheet	G001	6/9/2023	n/a
2.	Index of Drawings	G002	6/9/2023	n/a
3.	Construction Limit Plan	G002	6/9/2023	C1
4.	Project Data	G003	6/9/2023	n/a
5.	Second Floor Plan	G003	6/9/2023	A1
6.	Partial South Exterior Elevation	A102	6/9/2023	A1
7.	Enlarged Floor Plan – S. Port.	A102	6/9/2023	C1
8.	Exterior Elevation – C200	A201	6/9/2023	A1
9.	Exterior Elevation – E/W200	A201	6/9/2023	A3
10.	Door Floor Plan – C200	A201	6/9/2023	D1
11.	Interior Elevation – C200	A301	6/9/2023	A1
12.	Interior Elevation – E/W200	A301	6/9/2023	C1
13.	Section – Vestibule	A301	6/9/2023	A4
14.	Central Vestibule Salvage	A401	6/9/2023	A1
15.	Enlarged Floor Plan – C200 Temp. Encl.	A402	6/9/2023	A1
16.	Enl. Floor Plan – Sliding Temp. Encl.	A402	6/9/2023	A3
17.	C200 Door Elev. – Temporary Enclosure	A402	6/9/2023	B1
18.	Slider Door Elevation – Temp. Encl.	A402	6/9/2023	B3
19.	C200 – Temporary Enclosure	A402	6/9/2023	C3
20.	W200 – Temporary Enclosure	A402	6/9/2023	C4

21.	C200 – Header Elevation	A501	6/9/2023	A2
22.	Bttm. View - C200 Lower Pivot	A501	6/9/2023	B1
23.	Top View – C200 Lower Pivot	A501	6/9/2023	B2
24.	Section/Elevation – C200 & Side Pocket	A501	6/9/2023	B3
25.	Cross Section – C200 Lower Pivot	A501	6/9/2023	C1
26.	Long. Section – C200 Lower Pivot	A501	6/9/2023	C2
27.	Section – E/W200 Header	A501	6/9/2023	C2
28.	Hardware Schedule – C200	A601	6/9/2023	n/a
29.	Hardware Schedule – E200 & W200	A602	6/9/2023	n/a
30.	Alternate #1 – Central Header Enl. Elev.	A603	6/9/2023	A1
31.	Alt. #1 – Pin & Fill Crack	A603	6/9/2023	A3
32.	Alt. #1 – Central Header Section	A603	6/9/2023	A4
33.	Alt. #2 – (E) Elevation – Door 203	A603	6/9/2023	B1
34.	Alt. #2 – (N) Elevation - Door 203	A603	6/9/2023	B2
35.	Alt. #2 – (E) Elev. - Door 201 & 205	A603	6/9/2023	C1
36.	Alt. #2 – (N) Elev. - Door 201 & 205	A603	6/9/2023	C2
37.	Alt. #2 – (E) Elev. - Door 202 & 204	A603	6/9/2023	D1
38.	Alt. #2 – (E) Elev. - Door 202 & 204	A603	6/9/2023	B2

END OF SECTION 000115

SECTION 001116 - INVITATION FOR BID

1.0 OWNER:

- A. The State of Missouri
Office of Administration,
Division of Facilities Management, Design and Construction
Jefferson City, Missouri

2.0 PROJECT TITLE AND NUMBER:

- A. Bronze Door Restoration
Missouri State Capitol Building
Jefferson City, Missouri
Project No.: O2203-01

3.0 BIDS WILL BE RECEIVED:

- A. Until: 1:30 PM, Tuesday, October 10, 2023
****PRE-QUALIFICATION OF BRONZE DOOR SPECIALISTS REQUIRED**** Any bids received that do not include a pre-qualified Bronze Door Restoration Specialist shall be rejected. **See Request for Pre-Qualification Package for information regarding submitting statements of qualifications along with instructions on where and what time submissions are due to the Owner.**
- B. **Only electronic bids on MissouriBUYS shall be accepted: <https://missouribuys.mo.gov>. Bidder must be registered to bid.**

4.0 DESCRIPTION:

- A. Scope: The project will provide for the restoration, cleaning, and refinishing of all three of the bronze doors on the south portico of the Missouri State Capitol Building.
- B. MBE/WBE/SDVE Goals: **MBE 0%, WBE 0%, and SDVE 3%. NOTE: Only MBE/WBE firms certified by the State of Missouri Office of Equal Opportunity as of the date of bid opening, or SDVE(s) meeting the requirements of Section 34.074, RSMo and 1 CSR 30-5.010, can be used to satisfy the MBE/WBE/SDVE participation goals for this project.**

5.0 PRE-BID / PRE-QUALIFICATION MANDATORY SITE WALK-THRU MEETING:

- A. Place/Time: **2:00 PM, Tuesday, September 12, 2023**, House Hearing Room 4 (Room B37), Missouri State Capitol Building, Jefferson City, Missouri

****THIS IS A MANDATORY WALK-THRU FOR THE PRE-QUALIFICATION AND PRE-BID****

- B. Access to State of Missouri property requires presentation of a photo ID by all persons.

6.0 PRE-QUALIFICATION: ****PRE-QUALIFICATION OF BRONZE DOOR SPECIALISTS REQUIRED**** Any bids received that do not include a pre-qualified Bronze Door Restoration Specialist shall be rejected.

See Request for Pre-Qualification Package for information regarding submitting statements of qualifications. An addendum will be issued to this bid package with company names and contact information of selected pre-qualified Bronze Door Restoration Specialists.

7.0 HOW TO GET PLANS & SPECIFICATIONS:

- A. View Only Electronic bid sets are available at no cost or paper bid sets for a deposit of \$100.00 from American Document Solutions (ADS). MAKE CHECKS PAYABLE TO: American Document Solutions. Mail to: American Document Solutions, 1400 Forum Blvd., Suite 7A, Columbia, Missouri 65203. Phone 573-446-7768, Fax 573-355-5433, <https://www.adsplanroom.net>. NOTE: Prime contractors will be allowed a maximum of two bid sets at the deposit rate shown above. Other requesters will be allowed only one bid set at this rate. Additional bid sets or parts thereof may be obtained by any bidder at the cost of printing and shipping by request to American Document Solutions at the address shown above. **Bidder must secure at least one bid set to become a planholder.**
- B. **Refunds: Return plans and specifications in unmarked condition within 15 working days of bid opening to American Document Solutions, 1400 Forum Blvd., Suite 7A, Columbia, Missouri 65203. Phone 573-446-7768, Fax 573-355-5433. Deposits for plans not returned within 15 working days shall be forfeited.**
- C. Information for upcoming bids, including downloadable plans, specifications, Invitation for Bid, bid tabulation, award, addenda, and access to the ADS planholders list, is available on the Division of Facilities Management, Design and Construction's web site: <https://oa.mo.gov/facilities/bid-opportunities/bid-listing-electronic-plans>.

8.0 POINT OF CONTACT:

- A. Designer: TreanorHL, Adam Flock, 816-221-0900, email: aflock@treanorhl.com
- B. Project Manager: Andrew Friedmeyer, 573-508-5172, email: andrew.friedmeyer@oa.mo.gov

9.0 GENERAL INFORMATION:

- A. The State reserves the right to reject any and all bids and to waive all informalities in bids. No bid may be withdrawn for a period of 20 working days subsequent to the specified bid opening time. The contractor shall pay not less than the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed, as determined by the Missouri Department of Labor and Industrial Relations and as set out in the detailed plans and specifications.
- B. Bid results will be available at <https://oa.mo.gov/facilities/bid-opportunities/bid-listing-electronic-plans> after it is verified that at least one bid is awardable and affordable.

Very Important MissouriBUYS Instructions to Help Submit a Bid Correctly

- A. The bidder shall submit his or her bid and all supporting documentation on MissouriBUYS eProcurement System. No hard copy bids shall be accepted. Go to <https://missouribuys.mo.gov> and register. The bidder must register and complete a profile fully with all required documents submitted prior to submitting a bid.
- B. Once registered, log in.
1. Under "Solicitation" select "View Current Solicitations."
 2. Under "Filter by Agency" select "OA-FMDC-Contracts Chapter 8", then click "Filter Solicitation" button.
 3. Select "Active Solicitations" tab.
 4. To see the Solicitation Summary, click on the Project Number and the summary will open. Click each heading to open detailed information.
- C. Here are simplified instructions for uploading the bid to MissouriBUYS:
1. Find the solicitation by completing Steps 1 through 4 above.
 2. Select the three dots under "Actions." Select "Add New Response."
 3. When the Quote box opens, give the response a title and select "OK."
 4. The detailed solicitation will open. Select "Check All" for the Original Solicitation Documents, open each document, and select "Accept." If this step is not completed, a bid cannot be uploaded. Scroll to the bottom of the page and select "Add Attachments." If you do not see this command, not all documents have been opened and accepted.
 5. The Supplier Attachments box will open. Select "Add Attachment" again.
 6. The Upload Documents box will open. Read the instructions for uploading. Disregard the "Confidential" check box.
 7. Browse and attach up to 5 files at a time. Scroll to bottom of box and select "Upload." The Supplier Attachments box will open. Repeat Steps 5 through 7 if more than 5 files are to be uploaded.
 8. When the Supplier Attachments box opens again and uploading is complete, select "Done." A message should appear that the upload is successful. If it does not, go to the Bidder Response tab and select "Submit."
 9. The detailed solicitation will open. At the bottom select "Close."
- D. Any time a bidder wants to modify the bid, he or she will have to submit a new one. FMDC will open the last response the bidder submits. The bidder may revise and submit the bid up to the close of the solicitation (bid date and time). Be sure to allow for uploading time so that the bid is successfully uploaded prior to the 1:30 PM deadline; we can only accept the bid if it is uploaded before the deadline.
- E. If you want to verify that you are uploading documents correctly, please contact Paul Girouard: 573-751-4797, paul.girouard@oa.mo.gov; April Howser: 573-751-0053, April.Howser@oa.mo.gov; or Mandy Roberson: 573-522-0074, Mandy.Roberson@oa.mo.gov.
- F. If you are experiencing login issues, please contact Web Procure Support (Proactis) at 866-889-8533 anytime from 7:00 AM to 7:00 PM Central Time, Monday through Friday. If you try using a userid or password several times that is incorrect, the system will lock you out. Web Procure Support is the only option to unlock you! If you forget your userid or password, Web Procure Support will provide a temporary userid or password. Also, if it has been a while since your last successful login and you receive an "inactive" message, contact Web Procure (Proactis). If you are having a registration issue, you may contact Office of Administration Division of Purchasing at 573-751-3491.

IMPORTANT REMINDER REGARDING REQUIREMENT FOR OEO CERTIFICATION

A. SECTION 002113 – INSTRUCTIONS TO
BIDDERS: Article 15.0, Section D1:

As of July 1, 2020, all MBE, WBE, and MBE/WBE contractors, subcontractors, and suppliers must be certified by the State of Missouri, Office of Equal Opportunity. No certifications from other Missouri certifying agencies will be accepted.

SECTION 002113 – INSTRUCTIONS TO BIDDERS

1.0 - SPECIAL NOTICE TO BIDDERS

- A. If awarded a contract, the Bidder's employees, and the employees of all subcontractors, who perform the work on the project must adhere to requirements in Section 013513 – Site Security and Health Requirements as applicable per Agency.
- B. The Bidder's prices shall include all city, state, and federal sales, excise, and similar taxes that may lawfully be assessed in connection with the performance of work, and the purchased of materials to be incorporated in the work. THIS PROJECT IS NOT TAX EXEMPT.

2.0 - BID DOCUMENTS

- A. The number of sets obtainable by any one (1) party may be limited in accordance with available supply.
- B. For the convenience of contractors, sub-contractors and suppliers, copies of construction documents are on file at the office of the Director, Division of Facilities Management, Design and Construction and on the Division's web site - <https://oa.mo.gov/facilities/bid-opportunities/bid-listing-electronic-plans>.

3.0 - BIDDERS' OBLIGATIONS

- A. Bidders must carefully examine the entire site of the work and shall make all reasonable and necessary investigations to inform themselves thoroughly as to the facilities available as well as to all the difficulties involved in the completion of all work in accordance with the specifications and the plans. Bidders are also required to examine all maps, plans and data mentioned in the specifications. No plea of ignorance concerning observable existing conditions or difficulties that may be encountered in the execution of the work under this contract will be accepted as an excuse for any failure or omission on the part of the contractor to fulfill in every detail all of the requirements of the contract, nor accepted as a basis for any claims for extra compensation.
- B. Under no circumstances will contractors give their plans and specifications to another contractor. Any bid received from a contractor whose name does not appear on the list of plan holders may be subject to rejection.

4.0 - INTERPRETATIONS

- A. No bidder shall be entitled to rely on oral interpretations as to the meaning of the plans and specifications or the acceptability of alternate products, materials, form or type of construction. Every request for interpretation shall be made in writing and submitted with all supporting documents not less than five (5) working days before opening of bids. Every interpretation made to a bidder will be in the form of an addendum and will be sent as promptly as is practicable to all persons to whom plans and specifications have been issued. All such addenda shall become part of the contract documents.
- B. Approval for an "acceptable substitution" issued in the form of an addendum as per Paragraph 4A above, and as per Article 3.1 of the General Conditions; ACCEPTABLE SUBSTITUTIONS shall constitute approval for use in the project of the product.
- C. An "acceptable substitution" requested after the award of bid shall be approved if proven to the satisfaction of the Owner and the Designer as per Article 3.1, that the product is acceptable in design, strength, durability, usefulness, and convenience for the purpose intended. Approval of the substitution after award is at the sole discretion of the Owner.
- D. A request for "Acceptable Substitutions" shall be made on the Section 006325 Substitution Request Form. The request shall be sent directly to the project Designer. A copy of said request should also be mailed to the Owner, Division of Facilities Management, Design and Construction, Post Office Box 809, Jefferson City, Missouri 65102.

5.0 - BIDS AND BIDDING PROCEDURE

- A. Bidders shall submit all submission forms and accompanying documents listed in SECTION 004113 – BID FORM, Article 5.0, ATTACHMENTS TO BID by the stated time or their bid will be rejected for being non-responsive.

Depending on the specific project requirements, **the following is a GENERIC list** of all possible bid forms that may be due with bid submittals and times when they may be due. Please check for specific project requirements on the proposal form (Section 004113). ***Not all of the following bid forms may be required to be submitted.***

Bid Submittal – due before stated date and time of bid opening (see IFB):

004113	Bid Form (all pages are always required)
004322	Unit Prices Form
004336	Proposed Subcontractors Form
004337	MBE/WBE/SDVE Compliance Evaluation Form
004338	MBE/WBE/SDVE Eligibility Determination for Joint Ventures
004339	MBE/WBE/SDVE GFE Determination
004340	SDVE Business Form
004541	Affidavit of Work Authorization
004545	Anti-Discrimination Against Israel Act Certification form

- B. All bids shall be submitted without additional terms and conditions, modification or reservation on the bid forms with each space properly filled. Bids not on these forms will be rejected.
- C. All bids shall be accompanied by a bid bond executed by the bidder and a duly authorized surety company, certified check, cashier's check or bank draft made payable to the Division of Facilities Management, Design and Construction, State of Missouri, in the amount indicated on the bid form, Section 004113. Failure of the contractor to submit the full amount required shall be sufficient cause to reject his bid. The bidder agrees that the proceeds of the check, draft or bond shall become the property of the State of Missouri, if for any reason the bidder withdraws his bid after closing, or if on notification of award refuses or is unable to execute tendered contract, provide an acceptable performance and payment bond, provide evidence of required insurance coverage and/or provide required copies of affirmative action plans within ten (10) working days after such tender.
- D. The check or draft submitted by the successful bidder will be returned after the receipt of an acceptable performance and payment bond and execution of the formal contract. Checks or drafts of all other bidders will be returned within a reasonable time after it is determined that the bid represented by same will receive no further consideration by the State of Missouri. Bid bonds will only be returned upon request.

6.0 - SIGNING OF BIDS

- A. A bid from an individual shall be signed as noted on the Bid Form.
- B. A bid from a partnership or joint venture shall require only one signature of a partner, an officer of the joint venture authorized to bind the venture or an attorney-in-fact. If the bid is signed by an officer of a joint venture or an attorney-in-fact, a document evidencing the individual's authority to execute contracts should be included with the bid form.
- C. A bid from a limited liability company (LLC) shall be signed by a manager or a managing member of the LLC.
- D. A bid from a corporation shall have the correct corporate name thereon and the signature of an authorized officer of the corporation manually written. Title of office held by the person signing for the corporation shall appear, along with typed name of said individual. Corporate license number shall be provided and, if a corporation organized in a state other than Missouri, a Certificate of Authority to do business in the State of Missouri shall be attached. In addition, for corporate proposals, the President or Vice-President should sign as the bidder. If the signator is other than the corporate president or vice president, the bidder must provide satisfactory evidence that the signator has the legal authority to bind the corporation.

- E. A bid should contain the full and correct legal name of the Bidder. If the Bidder is an entity registered with the Missouri Secretary of State, the Bidder's name on the bid form should appear as shown in the Secretary of State's records.
- F. The Bidder should include its corporate license number on the Bid Form and, if the corporation is organized in a state other than Missouri, a Certificate of Authority to do business in the State of Missouri shall be attached to the bid form.

7.0 - RECEIVING BID SUBMITTALS

- A. It is the bidder's sole responsibility to assure receipt by Owner of bid submittals by the date and time specified in the Invitation for Bid. Bids received after the date and time specified shall not be considered by the Owner.
- B. Bids must be submitted through the MissouriBUYS statewide eProcurement system (<https://www.missouribuys.mo.gov/>) in accordance with the instructions for that system. The Owner shall only accept bids submitted through MissouriBUYS. Bids received by the Owner through any other means, including hard copies, shall not be considered and will be discarded by the Owner unopened.
- C. To respond to an Invitation for Bid, the Bidder must first register with MissouriBUYS by going through the MissouriBUYS Home Page (<https://www.missouribuys.mo.gov/>), clicking the "Register" button at the top of the page, and completing the Vendor Registration. Once registered, the Bidder accesses its account by clicking the "Login" button at the top of the MissouriBUYS Home Page. Enter your USERID and PASSWORD, which the Bidder will select. Under Solicitations, select "View Current Solicitations." A new screen will open. Under "Filter by Agency" select "OA-FMDC-Contracts Chapter 8." Under "Filter by Opp. No." type in the State Project Number. Select "Submit." Above the dark blue bar, select "Other Active Opportunities." To see the Solicitation Summary, single click the Opp. No. (Project Number) and the summary will open. Single quick click each blue bar to open detailed information. The Bidder must read and accept the Original Solicitation Documents and complete all identified requirements. The Bidder should download and save all of the Original Solicitation Documents on its computer so that the Bidder can prepare its response to these documents. The Bidder should upload its completed response to the downloaded documents as an attachment to the electronic solicitation response.
- D. Step-by-step instructions for how a registered vendor responds to a solicitation electronically are provided in Section 001116 – Invitation For Bid.
- E. The Bidder shall submit its bid on the forms provided by the Owner on MissouriBUYS with each space fully and properly completed, including all amounts required for alternate bids, unit prices, cost accounting data, etc. The Owner may reject bids that are not on the Owner's forms or that do not contain all requested information.
- F. No Contractor shall stipulate in his bid any conditions not contained in the specifications or standard bid form contained in the contract documents. To do so may subject the Contractor's bid to rejection.
- G. The completed forms shall be without interlineations, alterations or erasures.

8.0 - MODIFICATION AND WITHDRAWAL OF BIDS

- A. Bidder may withdraw his bid at any time prior to scheduled closing time for receipt of bids, but no bidder may withdraw his bid for a period of twenty (20) working days after the scheduled closing time for receipt of bids.
- B. The Bidder shall modify his or her original bid by submitting a revised bid on MissouriBUYS.

9.0 - AWARD OF CONTRACT

- A. The Owner reserves the right to reject any and/or all bids and further to waive all informalities in bidding when deemed in the best interest of the State of Missouri.
- B. The Owner reserves the right to let other contracts in connection with the work, including but not by way of limitation, contracts for the furnishing and installation of furniture, equipment, machines, appliances and other apparatus.

- C. The Owner shall award a contract to the lowest, responsive, responsible Bidder in accordance with Section 8.250, RSMo. No contract will be awarded to any Bidder who has had a contract with the Owner terminated within the preceding twelve months for material breach of contract or who has been suspended or debarred by the Owner.
- D. Award of alternates, if any, will be made in numerical order unless all bids received are such that the order of acceptance of alternates does not affect the determination of the lowest, responsive, responsible bidder.
- E. No bid shall be considered binding upon the Owner until the written contract has been properly executed, a satisfactory bond has been furnished, evidence of required insurance coverage, submittal of executed Section 004541, Affidavit of Work Authorization form, documentation evidencing enrollment and participation in a federal work authorization program has been received and an affirmative action plan submitted. Failure to execute and return the contract and associated documents within the prescribed period of time shall be treated, at the option of the Owner, as a breach of bidder's obligation and the Owner shall be under no further obligation to bidder.
- F. If the successful bidder is doing business in the State of Missouri under a fictitious name, he shall furnish to Owner, attached to the Bid Form, a properly certified copy of the certificate of Registration of Fictitious Name from the State of Missouri, and such certificate shall remain on file with the Owner.
- G. Any successful bidder which is a corporation organized in a state other than Missouri shall furnish to the Owner, attached to the Bid Form, a properly certified copy of its current Certificate of Authority to do business in the State of Missouri, such certificate to remain on file with the Owner. No contract will be awarded by the Owner unless such certificate is furnished by the bidder.
- H. Any successful bidder which is a corporation organized in the State of Missouri shall furnish at its own cost to the Owner, if requested, a Certificate of Good Standing issued by the Secretary of State, such certificate to remain on file with the Owner.
- I. Transient employers subject to Sections 285.230 and 285.234, RSMo, (out-of-state employers who temporarily transact any business in the State of Missouri) may be required to file a bond with the Missouri Department of Revenue. No contract will be awarded by the Owner unless the successful bidder certifies that he has complied with all applicable provisions of Section 285.230-234.
- J. Sections 285.525 and 285.530, RSMo, require business entities to enroll and participate in a federal work authorization program in order to be eligible to receive award of any state contract in excess of \$5,000. Bidders should submit with their bid an Affidavit of Work Authorization (Section 004541) along with appropriate documentation evidencing such enrollment and participation. Section-004541, Affidavit of Work Authorization is located on the MissouriBUYS solicitation for this project. Bidders must also submit an E-Verify Memorandum before the Owner may award a contract to the Bidder. Information regarding an E-Verify is located at <https://www.uscis.gov/e-verify/>. The contractor shall be responsible for ensuring that all subcontractors and suppliers associated with this contract enroll in E-Verify.

10.0 - CONTRACT SECURITY

- A. The successful bidder shall furnish a performance/payment bond as set forth in General Conditions Article 6.1 on a condition prior to the State executing the contract and issuing a notice to proceed.

11.0 - LIST OF SUBCONTRACTORS

- A. If required by "Section 004113 – Bid Form," each bidder must submit as part of their bid a list of subcontractors to be used in performing the work (Section 004336). The list must specify the name of the single designated subcontractor, for each category of work listed in "Section 004336 - Proposed Subcontractors Form." If work within a category will be performed by more than one subcontractor, the bidder must provide the name of each subcontractor and specify the exact portion of the work to be done by each. Failure to list the Bidder's firm, or a subcontractor for each category of work identified on the Bid Form or the listing of more than one subcontractor for any category without designating the portion of work to be performed by each shall be cause for rejection of the bid. If the bidder intends to perform any of the designated subcontract work with the use of his own employees, the bidder shall make that fact clear, by listing his own firm for the subject category. **If any category of work is left vacant, the bid shall be rejected.**

12.0 - WORKING DAYS

- A. Contract duration time is stated in working days and will use the following definition in determining the actual calendar date for contract completion:
 - 1. Working days are defined as all calendar days except Saturdays, Sundays and the following State of Missouri observed holidays: New Year's Day, Martin Luther King, Jr. Day, Lincoln Day, Washington's Birthday, Truman Day, Memorial Day, Juneteenth, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day and Christmas Day.

13.0 - AMERICAN AND MISSOURI - MADE PRODUCTS AND FIRMS

- A. By signing the bid form and submitting a bid on this project, the Bidder certifies that it will use American and Missouri products as set forth in Article 1.7 of the General Conditions. Bidders are advised to review those requirements carefully prior to bidding.
- B. A preference shall be given to Missouri firms, corporations or individuals, or firms, corporations or individuals that maintain Missouri offices or places of business, when the quality of performance promised is equal or better and the price quoted is the same or less.
- C. Pursuant to Section 34.076, RSMo, a contractor or Bidder domiciled outside the boundaries of the State of Missouri shall be required, in order to be successful, to submit a bid the same percent less than the lowest bid submitted by a responsible contractor or Bidder domiciled in Missouri as would be required for such a Missouri domiciled contractor or Bidder to succeed over the bidding contractor or Bidder domiciled outside Missouri on a like contract or bid being let in the person's domiciliary state and, further, the contractor or Bidder domiciled outside the boundaries of Missouri shall be required to submit an audited financial statement as would be required of a Missouri domiciled contractor or Bidder on a like contract or bid being let in the domiciliary state of that contractor or Bidder.

14.0 – ANTI-DISCRIMINATION AGAINST ISRAEL ACT CERTIFICATION:

- A. Pursuant to section 34.600, RSMo, if the Bidder meets the section 34.600, RSMo, definition of a “company” and the Bidder has ten or more employees, the Bidder must certify in writing that the Bidder is not currently engaged in a boycott of goods or services from the State of Israel as defined in section 34.600, RSMo, and shall not engage in a boycott of goods or services from the State of Israel, if awarded a contract, for the duration of the contract. The Bidder is requested to complete and submit the applicable portion of Section 004545 - Anti-Discrimination Against Israel Act Certification with their Bid Form. The applicable portion of the exhibit must be submitted prior to execution of a contract by the Owner and issuance of Notice to Proceed. If the exhibit is not submitted, the Owner shall rescind its Intent to Award and move to the next lowest, responsive, responsible bidder.

15.0 - MBE/WBE/SDVE INSTRUCTIONS

- A. Definitions:
 - 1. “**MBE**” means a Minority Business Enterprise.
 - 2. “**MINORITY**” has the same meaning as set forth in 1 C.S.R. 10-17.010.
 - 3. “**MINORITY BUSINESS ENTERPRISE**” has the same meaning as set forth in section 37.020, RSMo.
 - 4. “**WBE**” means a Women’s Business Enterprise.
 - 5. “**WOMEN’S BUSINESS ENTERPRISE**” has the same meaning as set forth in section 37.020, RSMo.
 - 6. “**SDVE**” means a Service-Disabled Veterans Enterprise.
 - 7. “**SERVICE-DISABLED VETERAN**” has the same meaning as set forth in section 34.074, RSMo.
 - 8. “**SERVICE-DISABLED VETERAN ENTERPRISE**” has the same meaning as “Service-Disabled Veteran Business” set forth in section 34.074, RSMo.

B. MBE/WBE/SDVE General Requirements:

1. For all bids greater than \$100,000, the Bidder shall obtain MBE, WBE and SDVE participation in an amount equal to or greater than the percentage goals set forth in the Invitation for Bid and the Bid Form, unless the Bidder is granted a Good Faith Effort waiver by the Director of the Division, as set forth below. If the Bidder does not meet the MBE, WBE and SDVE goals, or make a good faith effort to do so, the Bidder shall be non-responsive, and its bid shall be rejected.
2. The Bidder should submit with its bid all of the information requested in the MBE/WBE/SDVE Compliance Evaluation Form for every MBE, WBE, or SDVE subcontractor or material supplier the Bidder intends to use for the contract work. The Bidder is required to submit all appropriate MBE/WBE/SDVE documentation before the stated time and date set forth in the Invitation for Bid. If the Bidder fails to provide such information by the specified date and time, the Owner shall reject the bid.
3. The Director reserves the right to request additional information from a Bidder to clarify the Bidder's proposed MBE, WBE, and/or SDVE participation. The Bidder shall submit the clarifying information requested by the Owner within two (2) Working Days of receiving the request for clarification.
4. Pursuant to section 34.074, RSMo, a Bidder that is a SDVE doing business as Missouri firm, corporation, or individual, or that maintains a Missouri office or place of business, shall receive a three-point bonus preference in the contract award evaluation process. The bonus preference will be calculated and applied by reducing the bid amount of the eligible SDVE by three percent of the apparent low responsive bidder's bid. Based on this calculation, if the eligible SDVE's evaluation is less than the apparent low responsive bidder's bid, the eligible SDVE's bid becomes the apparent low responsive bid. This reduction is for evaluation purposes only, and will have no impact on the actual amount(s) of the bid or the amount(s) of any contract awarded. In order to be eligible for the SDVE preference, the Bidder must complete and submit with its bid the Missouri Service Disabled Veteran Business Form, and any information required by the form. The form is available on the MissouriBUYs solicitation for this project.

C. Computation of MBE/WBE/SDVE Goal Participation:

1. A Bidder who is a MBE, WBE, or SDVE may count 100% of the contract towards the MBE, WBE or SDVE goal, less any amounts awarded to another MBE, WBE or SDVE. (NOTE: A MBE firm that bids as general contractor must obtain WBE and SDVE participation; a WBE firm that bids as a general contractor must obtain MBE and SDVE participation; and a SDVE firm that bids as general contractor must obtain MBE and WBE participation.) In order for the remaining contract amount to be counted towards the MBE, WBE or SDVE goal, the Bidder must complete the MBE/WBE/SDVE Compliance Evaluation Form (Section 004337) identifying itself as an MBE, WBE or SDVE.
2. The total dollar value of the work granted to a certified MBE, WBE or SDVE by the Bidder shall be counted towards the applicable goal.
3. Expenditures for materials and supplies obtained from a certified MBE, WBE, or SDVE supplier or manufacturer may be counted towards the MBE, WBE and SDVE goals, if the MBE, WBE, or SDVE assumes the actual and contractual responsibility for the provision of the materials and supplies.
4. The total dollar value of the work granted to a second or subsequent tier subcontractor or a supplier may be counted towards a Bidder's MBE, WBE and SDVE goals, if the MBE, WBE, or SDVE properly assumes the actual and contractual responsibility for the work.
5. The total dollar value of work granted to a certified joint venture equal to the percentage of the ownership and control of the MBE, WBE, or SDVE partner in the joint venture may be counted towards the MBE/WBE/SDVE goals.
6. Only expenditures to a MBE, WBE, or SDVE that performs a commercially useful function in the work may be counted towards the MBE, WBE and SDVE goals. A MBE, WBE, or SDVE performs a commercially useful function when it is responsible for executing a distinct element of the work and carrying out its responsibilities by actually performing, managing and supervising the work or providing supplies or manufactured materials.

D. Certification of MBE/WBE/SDVE Subcontractors:

1. In order to be counted towards the goals, an MBE or WBE must be certified by the State of Missouri Office of Equal Opportunity and an SDVE must be certified by the State of Missouri, Office of Administration, Division of Purchasing and Material Management or by the Department of Veterans Affairs.
2. The Bidder may determine the certification status of a proposed MBE or WBE subcontractor or supplier by referring to the Office of Equal Opportunity (OEO)'s online MBE/WBE directory (<https://apps1.mo.gov/MWBCertifiedFirms/>). The Bidder may determine the eligibility of a SDVE subcontractor or supplier by referring to the Division of Purchasing and Materials Management's online SDVE directory (<https://oa.mo.gov/sites/default/files/sdvelisting.pdf>) or the Department of Veterans Affairs' directory (<https://vetbiz.va.gov/basic-search/>).
3. Additional information, clarifications, etc., regarding the listings in the directories may be obtained by calling the Division at (573)751-3339 and asking to speak to the Contract Specialist of record as shown in the Supplementary Conditions (Section 007300).

E. Waiver of MBE/WBE/SDVE Participation:

1. If a Bidder has made a good faith effort to secure the required MBE, WBE and/or SDVE participation and has failed, the Bidder shall submit with its bid the information requested in MBE/WBE/SDVE Good Faith Effort (GFE) Determination form. The GFE forms are located on the MissouriBUYS solicitation for this project. The Director will determine if the Bidder made a good faith effort to meet the applicable goals. If the Director determines that the Bidder did not make a good faith effort, the bid shall be rejected as being nonresponsive to the bid requirements. Bidders who demonstrate that they have made a good faith effort to include MBE, WBE, and/or SDVE participation will be determined to be responsive to the applicable participation goals, regardless of the percent of actual participation obtained, if the bid is otherwise acceptable.
2. In determining whether a Bidder has made a good faith effort to obtain MBE, WBE and/or SDVE participation, the Director may evaluate the factors set forth in 1 CSR 30-5.010(6)(C) and the following:
 - a. The amount of actual participation obtained;
 - b. How and when the Bidder contacted potential MBE, WBE, and SDVE subcontractors and suppliers;
 - c. The documentation provided by the Bidder to support its contacts, including whether the Bidder provided the names, addresses, phone numbers, and dates of contact for MBE/WBE/SDVE firms contacted for specific categories of work;
 - d. If project information, including plans and specifications, were provided to MBE/WBE/SDVE subcontractors;
 - e. Whether the Bidder made any attempts to follow-up with MBE, WBE or SDVE firms prior to bid;
 - f. Amount of bids received from any of the subcontractors and/or suppliers that the Bidder contacted;
 - g. The Bidder's stated reasons for rejecting any bids;
3. If no bidder has obtained any participation in a particular category (MBE/WBE/SDVE) or made a good faith effort to do so, the Director may waive that goal rather than rebid.

F. Contractor MBE/WBE/SDVE Obligations

1. If awarded a contract, the Bidder will be contractually required to subcontract with or obtain materials from the MBE, WBE, and SDVE firms listed in its bid, in amounts equal to or greater than the dollar amount bid, unless the amount is modified in writing by the Owner.
2. If the Contractor fails to meet or maintain the participation requirements contained in the Contractor's bid, the Contractor must satisfactorily explain to the Director why it cannot comply with the requirement and why failing meeting the requirement was beyond the Contractor's control. If the Director finds the Contractor's explanation unsatisfactory, the Director may take any appropriate action including, but not limited to:
 - a. Declaring the Contractor ineligible to participate in any contracts with the Division for up to twelve (12) months (suspension); and/or
 - b. Declaring the Contractor be non-responsive to the Invitation for Bid, or in breach of contract and rejecting the bid or terminating the contract.
3. If the Contractor replaces an MBE, WBE, or SDVE during the course of this contract, the Contractor shall replace it with another MBE, WBE, or SDVE or make a good faith effort to do so. All MBE, WBE and SDVE substitutions must be approved by the Director.
4. The Contractor shall provide the Owner with regular reports on its progress in meeting its MBE/WBE/SDVE obligations. At a minimum, the Contractor shall report the dollar-value of work completed by each MBE, WBE, or SDVE during the preceding month and the cumulative total of work completed by each MBE, WBE or SDVE to date with each monthly application for payment. The Contractor shall also make a final report, which shall include the total dollar-value of work completed by each MBE, WBE, and SDVE during the entire contract.

**STATE OF MISSOURI
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION
*MBE/WBE/SDVE DIRECTORIES***

The MBE/WBE Directory for goods and services is maintained by the Office of Equal Opportunity (OEO) and is located at the following web address:

<https://apps1.mo.gov/MWBCertifiedFirms/>

The SERVICE DISABLED VETERAN ENTERPRISE (SDVE) Directories may be accessed at the following web addresses:

<https://purch.oa.mo.gov/media/pdf/listing-certified-missouri-service-disabled-veteran-business-enterprises-sdves>

<https://veterans.certify.sba.gov/#search>



State of Missouri Construction Contract

THIS AGREEMENT is made (DATE) by and between:

Contractor Name and Address

hereinafter called the "Contractor,"

and the **State of Missouri**, hereinafter called the "**Owner**", represented by the Office of Administration, Division of Facilities Management, Design and Construction, on behalf of the Missouri State Capitol Commission.

WITNESSETH, that the Contractor and the Owner, for the consideration stated herein agree as follows:

ARTICLE 1. STATEMENT OF WORK

The Contractor shall furnish all labor and materials and perform all work required for furnishing and installing all labor, materials, equipment and transportation and everything necessarily inferred from the general nature and tendency of the plans and specifications for the proper execution of the work for:

Project Name: **Bronze Door Restoration
Missouri State Capitol Building
Jefferson City, Missouri**

Project Number: **O2203-01**

in strict accordance with the Contract Documents as enumerated in Article 7, all of which are made a part hereof.

ARTICLE 2. TIME OF COMPLETION

The contract completion date is **December 13, 2024**. Reference Section 011000 - Summary of Work for required construction phase completion dates. This time includes ten (10) working days for the Contractor to receive, sign and return the contract form along with required bonding and insurance certificates. Failure of the Contractor to provide correct bonding and insurance within the ten (10) working days shall not be grounds for a time extension. Receipt of proper bonding and insurance is a condition precedent to the formation of the contract and if not timely received, may result in forfeiture of the Contractor's bid security. Work may not commence until the Owner issues a written Notice to Proceed and must commence within seven (7) working days thereafter.

ARTICLE 3. LIQUIDATED DAMAGES

Whenever time is mentioned in this contract, time shall be and is of the essence of this contract. The Owner would suffer a loss should the Contractor fail to have the work embraced in this contract fully completed on or before the time above specified. THEREFORE, the parties hereto realize in order to adjust satisfactorily the damages on account of such failure that it might be impossible to compute accurately or estimate the amount of such loss or damages which the Owner would sustain by reason of failure to complete fully said work within the time required by this contract. The Contractor hereby covenants and agrees to pay the Owner, as and for **liquidated damages, the sum of \$1,000** per day for each and every day, Sunday and legal holidays excepted, during which the work remains incomplete and unfinished. Any sum which may be due the Owner for such damages shall be deducted and retained by the Owner from any balance which may be due the Contractor when said work shall have been finished and accepted. But such provisions shall not release the Bond of the Contractor from liability according to its terms. In case of failure to complete, the Owner will be under no obligation to show or prove any actual or specific loss or damage.

ARTICLE 4. CONTRACT SUM

The Owner shall pay the Contractor for the prompt, faithful and efficient performance of the conditions and undertakings of this contract, subject to additions, and deductions as provided herein, in current funds the sum of:

Base Bid:	\$
Alternate No. 1:	\$
Alternate No. 2:	\$
TOTAL CONTRACT AMOUNT:	(\$CONTRACT AMOUNT)

ARTICLE 5. PREVAILING WAGE RATE

MISSOURI PREVAILING WAGE LAW (Sections 290.210 to 290.340, RSMo): The Contractor shall pay not less than the specified hourly rate of wages, as set out in the wage order attached to and made part of the specifications for work under this contract, to all workers performing work under the contract, in accordance with sections 290.210 to 290.340, RSMo. The Contractor shall forfeit a penalty to the Owner of one hundred dollars per day (or portion of a day) for each worker that is paid less than the specified rates for any work done under the contract by the Contractor or by any subcontractor, in accordance with section 290.250, RSMo.

DAVIS-BACON ACT: If this Project is financed in whole or in part from Federal funds (as indicated in the Instructions to Bidders or other bid or contract documents for this Project), then this contract shall be subject to all applicable federal labor statutes, rules and regulations, including provisions of the Davis-Bacon Act, 40 U.S.C. §3141 et seq., and the “Federal Labor Standards Provisions,” as further set forth in Section 007333 – Supplementary General Conditions for Federally Funded/Assisted Construction Projects, which is incorporated into the contract by reference. Where the Missouri Prevailing Wage Law and the Davis-Bacon Act require payment of different wages for work performed under this contract, the Contractor and all Subcontractors shall pay the greater of the wages required under either law, on a classification by classification basis.

ARTICLE 6. MINORITY/WOMEN/SERVICE DISABLED VETERAN BUSINESS ENTERPRISE PARTICIPATION

The Contractor has been granted a waiver of the 10% MBE and 10% WBE and 3% SDVE participation goals. The Contractor agrees to secure the MBE/WBE/SDVE participation amounts for this project as follows: (OR)

The Contractor has met the MBE/WBE/SDVE participation goals and agrees to secure the MBE/WBE/SDVE participation amounts for this project as follows:

MBE/WBE/SDVE Firm:	Subcontract Amt:\$	
MBE/WBE/SDVE Firm:	Subcontract Amt:\$	
MBE/WBE/SDVE Firm:	Subcontract Amt:\$	
		Total \$

MBE/WBE/SDVE assignments identified above shall not be changed without a contract change signed by the Owner.

The Director of the Division of Facilities Management, Design and Construction or his Designee shall be the final authority to resolve disputes and disagreements between the Contractor and the MBE/WBE/SDVE firms listed above when such disputes impact the subcontract amounts shown above.

ARTICLE 7. CONTRACT DOCUMENTS

The following documents are hereby incorporated into this contract by reference (all division/section numbers and titles are as utilized in the Project Manual published by the Owner for this Project):

1. Division 0 – Procurement and Contracting Information, including, but not limited to:
 - a. Invitation for Bid (Section 001116)
 - b. Instructions to Bidders (Section 002113)
 - c. Supplementary Instructions to Bidders (if applicable) (Section 002213)

- d. The following documents as completed and executed by the Contractor and accepted by the Owner, if applicable:
 - i. Bid Form (Section 004113)
 - ii. Unit Prices (Section 004322)
 - iii. Proposed Contractors Form (Section 004336)
 - iv. MBE, WBE, SDVE Compliance Evaluation Form(s) (Section 004337)
 - v. MBE, WBE, SDVE Eligibility Determination Form for Joint Ventures (Section 004338)
 - vi. MBE, WBE, SDVE Good Faith Effort (GFE) Determination Form (Section 004339)
 - vii. Missouri Service Disabled Veteran Business Form (Section 004340)
 - viii. Affidavit of Work Authorization (Section 004541)
 - ix. Affidavit for Affirmative Action (Section 005414)
 - e. Performance and Payment Bond, completed and executed by the Contractor and surety (Section 006113)
 - f. General Conditions (Section 007213)
 - g. Supplementary Conditions (Section 007300)
 - h. Supplementary General Conditions for Federally Funded/Assisted Construction Projects (Section 007333)
 - i. Wage Rate(s) (Section 007346)
2. Division 1 – General Requirements
 3. All Drawings identified in the Project Manual
 4. All Technical Specifications included in the Project Manual
 5. Addenda, if applicable

ARTICLE 8 – CERTIFICATION

By signing this contract, the Contractor hereby re-certifies compliance with all legal requirements set forth in Section 6.0, Bidder’s Certifications of the Bid Form.

Further, if the Contractor provides any “personal information” as defined in §105.1500, RSMo concerning an entity exempt from federal income tax under Section 501(c) of the Internal Revenue Code of 1986, as amended, the Contractor understands and agrees that it is voluntarily choosing to enter into a state contract and providing such information for that purpose. The state will treat such personal information in accord with §105.1500, RSMo.

By signature below, the parties hereby execute this contract document.

APPROVED:

 Brian Yansen, Director
 Division of Facilities Management,
 Design and Construction

 Contractor’s Authorized Signature

I, Corporate Secretary, certify that I am Secretary of the corporation named above and that (CONTRACTOR NAME), who signed said contract on behalf of the corporation, was then (TITLE) of said corporation and that said contract was duly signed for and in behalf of the corporation by authority of its governing body, and is within the scope of its corporate powers.

Corporate Secretary



STATE OF MISSOURI
 OFFICE OF ADMINISTRATION
 DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION
AFFIDAVIT FOR AFFIRMATIVE ACTION

PROJECT NUMBER

NAME

First being duly sworn on oath states: that

he/she is the sole proprietor partner officer or manager or managing member of

NAME

a sole proprietorship partnership
 limited liability company (LLC)

or corporation, and as such, said proprietor, partner, or officer is duly authorized to make this

affidavit on behalf of said sole proprietorship, partnership, or corporation; that under the contract known as

PROJECT TITLE

Less than 50 persons in the aggregate will be employed and therefore, the applicable Affirmative Action requirements as set forth in Article 1.4 of the General Conditions of the State of Missouri have been met.

PRINT NAME & SIGNATURE

DATE

--

NOTARY INFORMATION

NOTARY PUBLIC EMBOSSER SEAL	STATE OF	COUNTY (OR CITY OF ST. LOUIS)	USE RUBBER STAMP IN CLEAR AREA BELOW
	SUBSCRIBED AND SWORN BEFORE ME, THIS		
	DAY OF	YEAR	
	NOTARY PUBLIC SIGNATURE	MY COMMISSION EXPIRES	
NOTARY PUBLIC NAME (TYPED OR PRINTED)			

**REQUEST FOR PRE-QUALIFICATION (RFPQ)
BRONZE DOOR RESTORATION SPECIALIST**

OWNER: State of Missouri
Office of Administration,
Division of Facilities Management, Design and Construction
Jefferson City, Missouri

PROJECT TITLE AND NUMBER: Missouri State Capitol Bronze Door Restoration
Project No. O2203-01

MANDATORY PRE-QUALIFICATION SITE WALK-THROUGH:

2:00 PM CST, Tuesday, September 12, 2023
House Hearing Room 4 (Room B37)
Missouri State Capitol
Jefferson City, Missouri

SUBMISSION OF STATEMENTS OF QUALIFICATIONS:

Until: 1:30 PM, Friday, September 22, 2023

To: Office of Administration
Division of Facilities Management, Design and Construction
Attn: Becky Mitchell
301 West High Street, Room 730
Jefferson City, MO 65101

POINT OF CONTACT: Becky Mitchell, Contracts Manager
Phone: (573) 751-8884
Email: Becky.Mitchell@oa.mo.gov

Respondents must direct all contact and questions regarding this RFPQ and the Project to the point of contact listed above. Respondents may not contact any other State employee or agency regarding this RFPQ or the Project.

Request for Pre-Qualifications (RFPQ) information and addenda may be obtained at no cost for electronic sets on the FMDC website at: <https://www.oafmdcplanroom.com/jobs/public> or at American Document Solutions, 1400 Forum Blvd., Suite 7A, Columbia, Missouri 65203, Phone 573-446-7768, Fax 573-355-5433.

1.0 GENERAL INFORMATION

The State of Missouri, Office of Administration, Division of Facilities Management, Design and Construction (FMDC) is requesting qualifications from Bronze Door Restoration Specialists for the restoration of the monumental bronze doors at the Missouri State Capitol Building in Jefferson City, Missouri. Because the work to be performed is highly specialized and requires specific expertise and experience, FMDC has determined that pre-qualification is necessary for this project. This pre-qualification process is limited to the restoration of the monumental bronze bi-fold doors

and bronze pocket doors, as described below and in the project drawings and specifications. Pre-qualification is not required for the remaining scope of work.

A general contractor may bid on this project only by contracting with a pre-qualified Bronze Door Restoration Specialist. A pre-qualified Bronze Door Restoration Specialist may bid the job as a General Contractor if able to provide the other required services.

2.0 PROJECT DESCRIPTION

2.1 Overview: This project primarily includes work on the Missouri State Capitol Building's south facing monumental bronze bi-fold doors (referred to in the plans and specifications as C200) and two sets of bronze pocket doors (referred to as W200 – west pocket doors, and E200 – east pocket doors).

The scope of work includes, but is not limited to, providing for the disassembly, restoration, cleaning, refinishing and reassembly/reconstruction of all three of the bronze door openings on the south portico of the Missouri State Capitol. This includes complete removal, cleaning and restoration of all doors, full repairs to leaves 5, 6, 7 and 8 of the east and west pocket doors (W200 and E200) (see architectural plans A3/A201 for reference), and full repair to the center bi-folding doors (C200) that includes both the inner and outer panels of leaves 1, 2, 3 and 4 (see architectural plans A1/A201 for reference). Previous in-depth diagnostic work was performed with the necessary tools to gain access to key internal components and parts in order to fully diagnose the malfunctioning conditions to provide the intended scope of work.

The scope of work is defined in more detail below and in the plans and specifications:

2.2 Scope of Work for Base Bid: Remove leaves 1, 2, 3 and 4 of the historic bronze monumental bi-fold doors (C200) from the opening to allow for proper restoration with the intent of having the doors fully operational, as originally designed (–see architectural plans A1/A201 for reference). Assess, diagnose, reconstruct, and/or replace the four pivot hinges. Ream out the pivot housing. Provide and install new pivot assemblies. Replace and install intermediate hinges between meeting leaf and carrying leaf. Completely remove the doors from the opening, transport to a facility off site, and lay flat for hinge work and all other work to be completed. Remove the outer cast bronze panels of door C200 (leaves 1, 2, 3, and 4) from the inner steel frame so that the frame can be assessed for deficiencies in its rigidity, integrity, and consistency in level and plumb. The inner frames of each leaf require repair, alteration, partial reconstruction or complete overhaul. Assume complete overhaul for bidding purposes. Modify or adjust the receiver for the meeting leaf attachment to allow for smooth operation. Fabricate any missing bronze trim, bronze decorative element, or hardware that is missing and replace in kind. Provide and install a temporary, weather tight, waterproof, insulated, secure enclosure during the off-site restoration. See Section 024119 “Selected Demolition” and Section 080311-01 and 02 “Historic Treatment of Bronze Doors” for more specific information regarding temporary enclosure.

Remove the threshold assembly at the center monumental bronze doors (C200) in its entirety. Suspected water/moisture infiltration has damaged the assembly, resulting in significant rust jacking. Examine the existing conditions beneath the threshold with focus on the bottom pin/pivot and steel channel. Remove existing epoxy fill in existing steel channel. Replace existing steel channel with stainless steel member. Using modern means and methods, the threshold should be

properly restored and reinstalled to ensure doors' proper, intended function.

Carefully and completely disassemble the wood and glass vestibule (door 203) beyond the bronze bi-fold doors (C200) and the two pocket niches to provide access for the removal of the bronze bi-fold door interior casing trim and two bronze pocket niches with bronze soffit panels. After repair work, reinstall the bronze bi-fold doors, the two pocket niches, the wood and glass vestibule and reassemble to match the original layout and construction.

Completely remove the sliding pocket doors (W200 and E200) from the opening and properly restore. Clean the sliding door pockets and inspect the trolley and rails. Clean, adjust, and return the replacement trolleys rails, bolts, pins, and hardware to smooth operation.

Once the monumental bi-fold bronze doors (C200) have been removed, construct a temporary, weather tight, waterproof, insulated, secure enclosure within the opening. Construct white-painted plywood and wood framed wall with an opening featuring a hollow metal double door, keyed, including a removable mullion, during the off-site restoration of the bronze doors. Once the pocket bronze doors (W200 and E200) have been removed, build a similar temporary enclosure within the openings. Construct white-painted plywood and wood-framed wall with no access door. Remove and verify proper location of threshold and re-secure in original location.

2.3 Scope of Work for Alternate #1: Pin and fill cracks and holes in the exterior limestone lintel above the bronze bi-fold doors (C200). See Section 040342 “Historic Stone Masonry Repair”.

2.4 Scope of Work for Alternate #2: Install card readers and new door hardware on existing vestibule doors (doors 201, 202, 203, 204 and 205) to allow for staff to enter from the exterior when the bronze doors (C200, W200 and E200) are open. New hardware includes mag-locks, closers, power supplies, and push button exit. Integrate new card readers and door hardware to existing security system. See Section 087100 “Door Hardware” and 281000 “Access Control”.

3.0 PRE-QUALIFICATION PROCESS

3.1 Overview: Bronze Door Restoration Specialists are required to be pre-qualified in order to perform any work on the project as either a subcontractor or General Contractor. Following pre-qualification of the Bronze Door Restoration Specialists, the selected firms will be notified and an addendum to the bid documents will be issued with a list of the pre-qualified firms. General Contractors who wish to bid can contact qualified specialty contractors to team with in the bid process. Qualified Bronze Door Restoration Specialists are permitted to bid as a General Contractor, if they are able to perform the work of a General Contractor.

3.2 Evaluation Process: The Owner will assign an evaluation team comprised of representatives of the design team and the Owner’s staff to evaluate and score the respondent’s qualifications. The evaluation team will evaluate the respondent’s statements of qualifications and assign points for each category identified below.

After the evaluation team has reviewed and scored the submittals, the Owner will notify respondents if their firm was approved for work on the project. The Owner will also issue an addendum containing the list of approved Bronze Door Restoration Specialists in order to notify all potential General Contractor bidders.

3.3 Evaluation Criteria: All respondents will be evaluated based upon financial responsibility, past experience of the firm and the firm’s proposed project team with projects of similar size, construction type, schedule and scope, and the other information requested below.

3.3.1 Available Points: A total of 1,000 points is possible. A minimum of 800 points is required to qualify for the list of approved Bronze Door Restoration Specialists and General Contractors for this project. The weighting of points for the pre-qualification evaluation will be as follows:

Organizational Information	100 Points
Project Team Makeup and Experience	350 Points
Financial Responsibility and Capacity	100 Points
Relevant Experience and Past Performance	450 Points
Total Possible Points	1000 Points

3.3.2 Mandatory Requirements: Irrespective of any point totals, the respondent must meet the mandatory, minimum requirements for pre-qualification identified below using the words “must” or “shall”. Firms not meeting these mandatory requirements will be deemed non-responsive and will not be pre-qualified.

3.4 Anticipated Schedule: The anticipated schedule for the pre-qualification and bid process is as follows:

Request for Pre-Qualification Released	8/21/2023
Mandatory Pre-Qualification//Pre-Bid site walk-through	9/12/2023
Qualifications submissions due to the Owner	9/22/2023
Evaluation of qualifications submissions	9/25/2023 thru 9/26/2023
Notifications of Pre-Qualified Bronze Door Specialists	9/26/2023
Last Addendum issued to Bidding Package	10/3/2023
Anticipated Bid Date	10/10/2023
Anticipated Intent to Award	10/17/2023
Anticipated Notice to Proceed	10/27/2023

3.5 Submission of Statements of Qualifications:

3.5.1 Format: Each firm shall submit one electronic copy on a flash drive and 5 spiral bound hard copies consisting of a maximum of twenty (20) one-sided 8 ½ x 11 pages, not including the organizational chart and bar chart, personnel resumes/qualifications, and financial statements. Each hard copy submission shall be spiral bound with hard stock covers front and back arranged in the order of the RFPQ selection criteria as stated below. Tab dividers separating selection criteria items 1 through 7, shall be included and shall be clearly labeled to indicate the material following. Covers and dividers shall not count toward the twenty (20) page maximum.

3.5.2 Due Date: Statements of Qualifications shall be delivered to the address provided on the first page of this RFPQ by the date and time specified. Late proposals will not be considered. The Respondent is solely responsible for submitting a response on time. It is the responsibility of the

Respondent to ensure that submissions are received by the deadline.

3.5.3 Responsibility of Respondent to Provide Clear Information: It is the sole responsibility of the Respondent to provide clear and complete answers and descriptions of the requested information. The Respondent's qualifications shall be evaluated based solely on the information and materials provided by the Respondent in response to this RFPQ and in an interview. Failure to provide all information requested or to provide clear answers may result in a proposal being rejected or may result in lower scoring.

3.5.4 Questions and Communications: Questions, requests for clarification or requests for modification of the RFPQ should be submitted in writing to Becky Mitchell at Becky.Mitchell@oa.mo.gov no later than the date specified in the Selection Schedule. At its option, FMDC may issue addenda to modify or clarify the RFPQ in response to submitted questions or comments. No verbal interpretation made to any Respondent regarding the meaning of the RFPQ shall be binding on FMDC.

3.5.5 Confidentiality of Submittals: FMDC is a public governmental body. The Missouri Sunshine Law (Ch. 610, RSMo) provides that all records of a public governmental body are open unless they may be closed or are closed as otherwise provided by law. All materials submitted by the Respondent in conjunction with the RFPQ becomes the property of FMDC, and are subject to disclosure pursuant to the Missouri Sunshine Law. The Respondent may mark submitted material as containing confidential trade secrets; however, such label is not binding on FMDC. Only information expressly permitted to be closed pursuant to the provisions of Missouri law, as determined by OA-FMDC's legal counsel or as required by a court, will be treated as a closed record by FMDC and withheld from any public request for records. The Respondent should presume information provided to FMDC in a proposal will be public following the award of the contract or after rejection of all proposals, and will be made available upon request in accordance with the provisions of state law.

3.5.6 State's Rights Reserved: FMDC reserves the right to reject any and all submissions, and the right to reissue this RFPQ if the submissions received are not acceptable to FMDC. FMDC reserves the right to waive technical defects in this RFPQ or any submission. FMDC reserves the right to request additional information and data from any Respondent. Any request for information by FMDC to the Respondent is solely for the purpose of evaluating statement of qualifications understanding its terms. Such a request shall not be considered to constitute a binding agreement or commitment by FMDC in any manner.

3.5.7 Addenda: This RFPQ is subject to revision after the date of issuance via written addenda only. Any addenda will be posted on FMDC's website at <https://oa.mo.gov/facilities/bid-opportunities/bid-listing-electronic-plans> and at American Document Solutions at <https://www.oafmdeplanroom.com/jobs/public>. **It is the responsibility of each Respondent to check for any RFPQ addenda prior to submitting its Statement of Qualifications.**

4.0 STATEMENT OF QUALIFICATIONS REQUIREMENTS

Each firm shall provide the following information in its Statement of Qualifications:

4.1 Cover Letter (with certification)

- 4.1.1 Each firm must provide a cover letter of interest with the signature of an authorized representative, and the following information:

Date:

Name of Firm:

Address:

Authorized Person (printed):

Title/Position:

Signature:

Telephone:

E-mail:

Name, Telephone, and E-mail of Primary Point of Contact regarding this RFPQ:

- 4.1.2 The text of the following certification must be included in the Cover Letter:

I certify that I am authorized to represent the firm named below and that the statements contained in these qualifications are true and correct.

4.2 Tab 1 - Organizational Information

- 4.2.1 Provide a brief history of the history of the firm, including when the firm started and how it developed, a list of the primary officers and their respective titles who are involved with the firm, and how the firm is currently organized.
- 4.2.2 If your business has operated under a different name, provide the name.
- 4.2.3 Provide a brief description of the types of services the firm typically provides.
- 4.2.4 Describe the services that will be provided by the firm on this project and the anticipated percentage of the work that will be performed by the firm's own work force.
- 4.2.5 State if your firm has ever defaulted on a contract or failed to complete awarded work. If so, provide a description of the project and an explanation of why the work was not completed.
- 4.2.6 State if your firm, or any of its owners, officers or members, ever been sued by client or owner of a project that the firm performed work on. If so, provide the name of the lawsuit and a brief description of the claims.

4.3 Tab 2 - Team Make-Up and Experience

- 4.3.1 The firm shall be required to have, at a minimum, the following project staff: a qualified key Project Manager, a Job Superintendent and a full-time, On-Site Supervisor who have served in similar project team roles and have previous experience with bronze door restoration projects of a similar scope and complexity. The On-Site Supervisor and the Job Superintendent may be the same person.
- 4.3.2 Include an organizational chart showing all persons who will be involved with this project, their roles and responsibilities, and their working location during the entire life of the project.
- 4.3.3 Identify the qualified Project Manager, Job Superintendent, and On-Site Supervisor by name.
- 4.3.4 Attach resumes for the Project Manager, Job Superintendent, and on-site Supervisor, listing name, time with firm, and similar project experience in scope and complexity.
- 4.3.5 For the On-Site Supervisor, identify three (3) bronze door restoration projects of similar scope and complexity that he/she has worked on and provide the contact information of the owner and the architect for each project. (One (1) of the On-Site Supervisor's projects shall be with the firm submitting this document.)
- 4.3.6 Note: Substitution of the On-Site Supervisor during the project is allowed only upon Owner's written approval. Any substitution must meet the same requirements and conditions.
- 4.3.7 Provide the number of years each employee to be used on this project has worked at the journeyman level in bronze door restoration.
- 4.3.8 State if anyone in your firm is a member of any professional organizations or affiliations. If so, please include the name(s) of person, the names(s) of the professional organization(s) or affiliation(s) and membership number(s) of such individuals.

4.4 Tab 3 - Financial Responsibility and Capacity

- 4.4.1 Provide the total value of all the firm's projects currently in progress.
- 4.4.2 Provide the total value of the firm's Bronze Door Restoration projects currently in progress.
- 4.4.3 Attach your organization's most recently audited financial statement.
- 4.4.4 Provide the firm's Performance and Payment (Surety) Bond Rate.

4.5 Tab 4 - Relevant Experience and Past Performance

- 4.5.1 State how many years has your firm been in the bronze door restoration business. The firm must have been in the bronze door restoration business a minimum of five (5) years. Additional experience may receive additional points.
- 4.5.2 Identify three (3) satisfactory past and/or present bronze door restoration projects of a similar scope and complexity as this project that your organization has completed in the past five (5) years. Failure to include at least three projects will result in the respondent's Statement of Qualifications being rejected as non-responsive and not scored.
- 4.5.3 For each relevant past project, provide the following information:
- Title or name of the project;
 - Address of the project;
 - Name, email, and phone number of the project superintendent;
 - Name, email, and phone number of the owner's representative;
 - Name, email, and phone number of the architect or engineer;
 - Total contract amount;
 - Contract amount/value of work performed by your firm;
 - Project start date;
 - Scheduled date of completion;
 - Actual date of completion;
 - Scope of work/brief description of work.
- 4.5.4 Past projects that were reviewed and approved by a State Historic Preservation Office or the historic review body responsible for administration of registered sites or by a funding agency will be scored more favorably than projects not meeting this requirement.
- 4.5.5 Past projects that include bronze door restoration with reconstructed and reinstalled mechanical assemblies and parts will be scored more favorably than projects not including this type of work.
- 4.5.6 Project contacts may be contacted for a reference as part of the Pre-Qualification evaluation at the Owner's discretion. Failure to provide current, valid contact information will result in projects receiving lower scoring.
- 4.5.7 For each project, provide a total of at least nine (9) photographs (three (3) for each phase/category below) showing the progress of the project, as follows:
- Removal;
 - Repair of existing mechanical parts/fabrication of replacement mechanical parts;
 - Finished/completed repair.
- 4.5.8 Method of Performance: Provide a narrative of your approach to projects of this nature.

5.0 Notice of Legal and Contractual Requirements:

5.1 Business Registration: In order to be awarded a contract, any bidder that operates as a legal entity in the State of Missouri must be appropriately registered with the Missouri Secretary of State's office, and such registration must be active and in good standing. If the successful bidder is doing business in the State of Missouri under a fictitious name, the bidder must have a current Registration of Fictitious Name. If the bidder is an entity formed in another State, the bidder must have a Certificate of Authority to do business in Missouri. The Owner will typically ascertain the bidder's standing with the Missouri Secretary of State from the information available on the Secretary of State's website. However, the Owner may, at its discretion, request proof of compliance with this paragraph from the selected bidder prior to award of a contract. The bidder shall provide a certified copy of its Certificate of Good Standing, Certificate of Authority and/or Registration of Fictitious name to the Owner upon request. If the bidder fails to provide such information upon request, the Owner shall not award a contract to the Respondent, and the Owner will not be under any further obligation to the Respondent.

5.2 Transient Employers: Transient employers subject to sections 285.230 and 285.234, RSMo (out-of-state employers who temporarily transact any business in the State of Missouri) may be required to file a bond with the Missouri Department of Revenue. The Owner may require the Respondent to certify that it has complied with all applicable provisions of sections 285.230 and 285.234, RSMo before awarding a contract.

5.3 Work Authorization: Sections 285.525 and 285.530, RSMo require business entities to enroll and participate in a federal work authorization program in order to be awarded a contract in excess of \$5,000 with the State of Missouri. Bidders must submit an Affidavit of Work Authorization prior to being awarded a contract. Bidders must also submit an E-Verify Memorandum before the Owner may award a contract to the bidder. Information regarding E-Verify is located at <https://www.uscis.gov/e-verify/>. The bidder shall be responsible for ensuring that its subcontractors or sub-consultants enroll in E-Verify.

5.4 Anti-Discrimination Against Israel Act: Bidders will be expected to provide a certification before being awarded a contract as follows:

If the contractor meets the definition of a company as defined in section 34.600, RSMo, and has ten or more employees, the contractor shall not engage in a boycott of goods or services from the State of Israel; from companies doing business in or with Israel or authorized by, licensed by, or organized under the laws of the State of Israel; or from persons or entities doing business in the State of Israel as defined in section 34.600, RSMo.

If, at any time during the life of this Agreement, the contractor meets the definition of a company as defined in section 34.600, RSMo, and the contractor company's employees increases to ten or more OR the contractor's business status changes to become a company as defined in section 34.600, RSMo, and the contractor company has ten or more employees, then the contractor shall submit to the Division of Facilities Management, Design and Construction a completed Box C of the exhibit titled "Anti-Discrimination Against Israel Act Certification, and shall comply with the requirements of Box C.

5.5 Background checks and Photo ID: If awarded a contract, the contractor's employees, and the employees of all subcontractors and suppliers who perform work on the project, may be required to undergo a background check and obtain a State of Missouri identification badge prior to beginning work, as set forth further in the Site Security and Health Requirements outlined in the Request for Proposal.

SECTION 006113 - PERFORMANCE AND PAYMENT BOND FORM

KNOW ALL MEN BY THESE PRESENTS, THAT we _____

as principal, and _____

_____ as Surety, are held and firmly bound unto the

STATE OF MISSOURI. in the sum of _____ Dollars (\$ _____)

for payment whereof the Principal and Surety bind themselves, their heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

WHEREAS, the Principal has, by means of a written agreement dated the _____

day of _____, 20_____, enter into a contract with the State of Missouri for

(Insert Project Title and Number)

NOW, THEREFORE, if the Principal shall faithfully perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the State of Missouri, with or without notice to the Surety and during the life of any guaranty required under the contract; and shall also faithfully perform and fulfill all undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said contract that may hereafter be made with or without notice to the Surety; and shall also promptly make payment for materials incorporated, consumed or used in connection with the work set forth in the contract referred to above, and all insurance premiums, both compensation and all other kinds of insurance, on said work, and for all labor performed on such work, whether by subcontractor or otherwise, at not less than the prevailing hourly rate of wages for work of a similar character (exclusive of maintenance work) in the locality in which the work is performed and not less than the prevailing hourly rate of wages for legal holiday and overtime work (exclusive of maintenance work) in the locality in which the work is performed both as determined by the Department of Labor and Industrial Relations or determined by the Court of Appeal, as provided for in said contract and in any and all duly authorized modifications of said contract that may be hereafter made, with or without notice to the Surety, then, this obligation shall be void and of no effect, but it is expressly understood that if the Principal should make default in or should fail to strictly, faithfully and efficiently do, perform and comply with any or more of the covenants, agreements, stipulations, conditions, requirements or undertakings, as specified in or by the terms of said contract, and with the time therein named, then this obligation shall be valid and binding upon each of the parties hereto and this bond shall remain in full force and effect; and the same may be sued on at the instance of any material man, laborer, mechanic, subcontractor, individual, or otherwise to whom such payment is due, in the name of the State of Missouri, to the use of any such person.

AND, IT IS FURTHER specifically provided that any modifications which may hereinafter be made in the terms of the contract or in the work to be done under it or the giving by the Owner of any extension of the time for the performance of the contract or any other forbearance on the part of either the Owner or the Principal to the other, shall not in any way release the Principal and the Surety, or either or any of them, their heirs, executors, administrators and successors, from their liability hereunder, notice to the Surety of any such extension, modifications or forbearance being hereby waived.

IN WITNESS WHEREOF, the above bounden parties have executed the within instrument this _____ day of _____, 20 ____.

AS APPLICABLE:

AN INDIVIDUAL

Name: _____

Signature: _____

A PARTNERSHIP

Name of Partner: _____

Signature of Partner: _____

Name of Partner: _____

Signature of Partner: _____

CORPORATION

Firm Name: _____

Signature of President: _____

SURETY

Surety Name: _____

Attorney-in-Fact: _____

Address of Attorney-in-Fact: _____

Telephone Number of Attorney-in-Fact: _____

Signature Attorney-in-Fact: _____

NOTE: Surety shall attach Power of Attorney



STATE OF MISSOURI
 OFFICE OF ADMINISTRATION
 DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION
PRODUCT SUBSTITUTION REQUEST

PROJECT NUMBER

PROJECT TITLE AND LOCATION

CHECK APPROPRIATE BOX

- SUBSTITUTION PRIOR TO BID OPENING**
 (Minimum of (5) working days prior to receipt of Bids as per Article 4 – Instructions to Bidders)
- SUBSTITUTION FOLLOWING AWARD**
 (Maximum of (20) working days from Notice to Proceed as per Article 3 – General Conditions)

FROM: BIDDER/CONTRACTOR (PRINT COMPANY NAME)

TO: ARCHITECT/ENGINEER (PRINT COMPANY NAME)

Bidder/Contractor hereby requests acceptance of the following product or systems as a substitution in accordance with provisions of Division One of the Bidding Documents:

SPECIFIED PRODUCT OR SYSTEM

SPECIFICATION SECTION NO.

SUPPORTING DATA

- Product data for proposed substitution is attached (include description of product, standards, performance, and test data)
- Sample Sample will be sent, if requested

QUALITY COMPARISON

	SPECIFIED PRODUCT	SUBSTITUTION REQUEST
NAME, BRAND		
CATALOG NO.		
MANUFACTURER		
VENDOR		

PREVIOUS INSTALLATIONS

PROJECT	ARCHITECT/ENGINEER	DATE INSTALLED
LOCATION		

SIGNIFICANT VARIATIONS FROM SPECIFIED PRODUCT

REASON FOR SUBSTITUTION

DOES PROPOSED SUBSTITUTION AFFECT OTHER PARTS OF WORK?

YES NO

IF YES, EXPLAIN _____

SUBSTITUTION REQUIRES DIMENSIONAL REVISION OR REDESIGN OF STRUCTURE OR A/E WORK

YES NO

BIDDER'S/CONTRACTOR'S STATEMENT OF CONFORMANCE OF PROPOSED SUBSTITUTION TO CONTRACT REQUIREMENT:

We have investigated the proposed substitution. We believe that it is equal or superior in all respects to specified product, except as stated above; that it will provide the same Warranty as specified product; that we have included complete implications of the substitution; that we will pay redesign and other costs caused by the substitution which subsequently become apparent; and that we will pay costs to modify other parts of the Work as may be needed, to make all parts of the Work complete and functioning as a result of the substitution.

BIDDER/CONTRACTOR	DATE
-------------------	------

REVIEW AND ACTION

Resubmit Substitution Request with the following additional information:

Substitution is accepted.

Substitution is accepted with the following comments:

Substitution is not accepted.

ARCHITECT/ENGINEER	DATE
--------------------	------



PROJECT NUMBER

KNOW ALL MEN BY THESE PRESENT THAT: hereinafter called "Subcontractor" who heretofore entered into an agreement with hereinafter called "Contractor", for the performance of work and/or furnishing of material for the construction of the project entitled

(PROJECT TITLE, PROJECT LOCATION, AND PROJECT NUMBER)

at

(ADDRESS OF PROJECT)

for the State of Missouri (Owner) which said subcontract is by this reference incorporated herein, in consideration of such final payment by Contractor.

DOES HEREBY:

1. ACKNOWLEDGE that they have been **PAID IN FULL** all sums due for work and materials contracted or done by their Subcontractors, Material Vendors, Equipment and Fixture Suppliers, Agents and Employees, or otherwise in the performance of the Work called for by the aforesaid Contract and all modifications or extras or additions thereto, for the construction of said project or otherwise.
2. RELEASE and fully, finally, and forever discharge the Owner from any and all suits, actions, claims, and demands for payment for work performed or materials supplied by Subcontractor in accordance with the requirements of the above referenced Contract.
1. REPRESENT that all of their Employees, Subcontractors, Material Vendors, Equipment and Fixture Suppliers, and everyone else has been **paid in full** all sums due them, or any of them, in connection with performance of said Work, or anything done or omitted by them, or any of them in connection with the construction of said improvements, or otherwise.

DATED this day of , 20 .

NAME OF SUBCONTRACTOR

BY (TYPED OR PRINTED NAME)

SIGNATURE

TITLE

ORIGINAL: FILE/Closeout Documents



STATE OF MISSOURI
 OFFICE OF ADMINISTRATION
 DIVISION OF FACILITIES MANAGEMENT,
 DESIGN AND CONSTRUCTION

MBE/WBE/SDVE PROGRESS REPORT

Remit with ALL Progress and Final Payments

(Please check appropriate box) CONSULTANT CONSTRUCTION

PAY APP NO.	PROJECT NUMBER
CHECK IF FINAL <input checked="" type="checkbox"/> FINAL	DATE

PROJECT TITLE

PROJECT LOCATION

FIRM

ORIGINAL CONTRACT SUM (Same as Line Item 1. on Form A of Application for Payment) \$	TOTAL CONTRACT SUM TO DATE (Same as Line Item 3. on Form A of Application for Payment) \$
---	--

THE TOTAL MBE/WBE/SDVE PARTICIPATION DOLLAR AMOUNT OF THIS PROJECT AS INDICATED IN THE ORIGINAL CONTRACT: \$

SELECT MBE, WBE, SDVE	ORIGINAL CONTRACT PARTICIPATION AMOUNT	PARTICIPATION AMOUNT PAID-TO-DATE (includes approved contract changes)	CONSULTANT/SUBCONSULTANT OR CONTRACTOR/SUBCONTRACTOR/SUPPLIER COMPANY NAME
<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVE	\$	\$	
<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVE	\$	\$	
<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVE	\$	\$	
<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVE	\$	\$	
<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVE	\$	\$	
<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVE	\$	\$	



STATE OF MISSOURI
 OFFICE OF ADMINISTRATION
 DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION
AFFIDAVIT – COMPLIANCE WITH PREVAILING WAGE LAW

PROJECT NUMBER

Before me, the undersigned Notary Public, in and for the County of _____

State of _____ personally came and appeared _____

(NAME)

of the _____

(POSITION)

(NAME OF THE COMPANY)

(a corporation) (a partnership) (a proprietorship) and after being duly sworn did depose and say that all provisions and requirements set out in Chapter 290, Sections 290.210 through and including 290.340, Missouri Revised Statutes, pertaining to the payment of wages to workmen employed on public works project have been fully satisfied and there has been no exception to the full and completed compliance with said provisions and requirements

and with Wage Determination No: _____ issued by the

Department of Labor and Industrial Relations, State of Missouri on the _____ day of _____ 20__

in carrying out the contract and working in connection with _____

(NAME OF PROJECT)

Located at _____ in _____ County

(NAME OF THE INSTITUTION)

Missouri, and completed on the _____ day of _____ 20__

SIGNATURE

NOTARY INFORMATION

NOTARY PUBLIC EMBOSSEER OR BLACK INK RUBBER STAMP SEAL

STATE

COUNTY (OR CITY OF ST. LOUIS)

SUBSCRIBED AND SWORN BEFORE ME, THIS

DAY OF

YEAR

USE RUBBER STAMP IN CLEAR AREA BELOW

NOTARY PUBLIC SIGNATURE

MY COMMISSION EXPIRES

NOTARY PUBLIC NAME (TYPED OR PRINTED)

GENERAL CONDITIONS

INDEX

ARTICLE:

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- 1.6. Patents and Royalties
- 1.7. Preference for American and Missouri Products and Services
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- 1.9. Separate Contracts and Cooperation
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6.1. Bond

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7.2. For Cause

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SECTION 007213 - GENERAL CONDITIONS

- A. These General Conditions apply to each section of these specifications. The Contractor is subject to the provisions contained herein.
- B. The General Conditions are intended to define the relationship of the Owner, the Designer and the Contractor thereby establishing certain rules and provisions governing the operation and performance of the work so that the work may be performed in a safe, orderly, expeditious and workmanlike manner.

ARTICLE 1 – GENERAL PROVISIONS

ARTICLE 1.1 - DEFINITIONS

As used in these contract documents, the following terms shall have the meanings and refer to the parties designated in these definitions.

- 1. **"COMMISSIONER"**: The Commissioner of the Office of Administration.
- 2. **"CONSTRUCTION DOCUMENTS"**: The "Construction Documents" shall consist of the Project Manual, Drawings and Addenda.
- 3. **"CONSTRUCTION REPRESENTATIVE:"** Whenever the term "Construction Representative" is used, it shall mean the Owner's Representative at the work site.
- 4. **"CONTRACTOR"**: Party or parties who have entered into a contract with the Owner to furnish work under these specifications and drawings.
- 5. **"DESIGNER"**: When the term "Designer" is used herein, it shall refer to the Architect, Engineer, or Consultant of Record specified and defined in Paragraph 2.0 of the Supplemental Conditions, or his duly authorized representative. The Designer may be either a consultant or state employee.
- 6. **"DIRECTOR"**: Whenever the term "Director" is used, it shall mean the Director of the Division of Facilities Management, Design and Construction or his Designee, representing the Office of Administration, State of Missouri. The Director is the agent of the Owner.
- 7. **"DIVISION"**: Shall mean the Division of Facilities Management, Design and Construction, State of Missouri.

- 8. **"INCIDENTAL JOB BURDENS"**: Shall mean those expenses relating to the cost of work, incurred either in the home office or on the job-site, which are necessary in the course of doing business but are incidental to the job. Such costs include office supplies and equipment, postage, courier services, telephone expenses including long distance, water and ice and other similar expenses.
- 9. **"JOINT VENTURE"**: An association of two (2) or more businesses to carry out a single business enterprise for profit for which purpose they combine their property, capital, efforts, skills and knowledge.
- 10. **"OWNER"**: Whenever the term "Owner" is used, it shall mean the State of Missouri.
- 11. **"PROJECT"**: Wherever the term "Project" is used, it shall mean the work required to be completed by the construction contract.
- 12. **"PROJECT MANUAL"**: The "Project Manual" shall consist of Introductory Information, Invitation for Bid, Instructions to Bidders, Bid Documents, Additional Information, Standard Forms, General Conditions, Supplemental General Conditions, General Requirements and Technical Specifications.
- 13. **"SUBCONTRACTOR"**: Party or parties who contract under, or for the performance of part or this entire Contract between the Owner and Contractor. The subcontract may or may not be direct with the Contractor.
- 14. **"WORK"**: Labor, material, supplies, plant and equipment required to perform and complete the service agreed to by the Contractor in a safe, expeditious, orderly and workmanlike manner so that the project shall be complete and finished in the best manner known to each respective trade.
- 15. **"WORKING DAYS"**: are all calendar days except Saturdays, Sundays and the following holidays: New Year's Day, Martin Luther King, Jr. Day, Lincoln Day, Washington's Birthday (observed), Truman Day, Memorial Day, Juneteenth, Independence Day, Labor Day, Columbus Day, Veterans Day (observed), Thanksgiving Day, Christmas Day.

ARTICLE 1.2 DRAWINGS AND SPECIFICATIONS

- A. In case of discrepancy between drawings and specifications, specifications shall govern. Should discrepancies in architectural drawings, structural drawings and mechanical drawings occur,

architectural drawings shall govern and, in case of conflict between structural and mechanical drawings, structural drawings shall govern.

- B. Specifications are separated into titled divisions for convenience of reference only and to facilitate letting of contracts and subcontracts. The Contractor is responsible for establishing the scope of work for subcontractors, which may cross titled divisions. Neither the Owner nor Designer will establish limits and jurisdiction of subcontracts.
- C. Figured dimensions take precedence over scaled measurements and details over smaller scale general drawings. In the event of conflict between any of the documents contained within the contract, the documents shall take precedence and be controlling in the following sequence: addenda, supplementary general conditions, general conditions, division 1 specifications, technical division specifications, drawings, bid form and instructions to bidders.
- D. Anything shown on drawings and not mentioned in these specifications or vice versa, as well as any incidental work which is obviously necessary to complete the project within the limits established by the drawings and specifications, although not shown on or described therein, shall be performed by the Contractor at no additional cost as a part of his contract.
- E. Upon encountering conditions differing materially from those indicated in the contract documents, the Contractor shall promptly notify the Designer and Construction Representative in writing before such conditions are disturbed. The Designer shall promptly investigate said conditions and report to the Owner, with a recommended course of action. If conditions do materially differ and cause an increase or decrease in contract cost or time required for completion of any portion of the work, a contract change will be initiated as outlined in Article 4 of these General Conditions.
- E. Only work included in the contract documents is authorized, and the Contractor shall do no work other than that described therein or in accordance with appropriately authorized and approved contract changes.

ARTICLE 1.3 - COMPLIANCE WITH LAWS, PERMITS, REGULATIONS AND INSPECTIONS

- A. Since the Owner is the State of Missouri, municipal or political subdivisions, zoning ordinances, construction codes (other than licensing of trades), and other like ordinances are not applicable to construction on Owner's property, and Contractor will not be required to submit drawings and specifications to any municipal or political subdivision, authority, obtain

construction permits or any other licenses (other than licensing of trades) or permits from or submit to inspections by any municipality or political subdivision relating to the construction for this project. All permits or licenses required by municipality or political subdivision for operation on property not belonging to Owner shall be obtained by and paid for by Contractor. Each Contractor shall comply with all applicable laws, ordinances, rules and regulations that pertain to the work of this contract.

- B. Contractors, subcontractors and their employees engaged in the businesses of electrical, mechanical, plumbing, carpentry, sprinkler system work, and other construction related trades shall be licensed to perform such work by the municipal or political subdivision where the project is located, if such licensure is required by local code. Local codes shall dictate the level (master, journeyman, and apprentice) and the number, type and ratio of licensed tradesmen required for this project within the jurisdiction of such municipal or political subdivision.
- C. Equipment and controls manufacturers and their authorized service and installation technicians that do not maintain an office within the jurisdiction of the municipal or political subdivision but are a listed or specified contractor or subcontractor on this project are exempt from Paragraph 1.3 B above.
- D. The Contractor shall post a copy of the wage determination issued for the project and included as a part of the contract documents, in a prominent and easily accessible location at the site of construction for the duration of the project.
- E. Any contractor or subcontractor to such contractor at any tier signing a contract to work on this project shall provide a ten-hour Occupational Safety and Health Administration (OSHA) construction safety program for their on-site employees which includes a course in construction safety and health approved by OSHA or a similar program approved by the Department of Labor and Industrial Relations which is at least as stringent as an approved OSHA program. The contractor shall forfeit as a penalty to the public body on whose behalf the contract is made or awarded, two thousand five hundred dollars plus one hundred dollars for each employee employed by the contractor or subcontractor, for each calendar day, or portion thereof, such employee is employed without the required training.

ARTICLE 1.4 - NONDISCRIMINATION IN EMPLOYMENT

- A. The Contractor and his subcontractors will not discriminate against individuals based on race,

color, religion, national origin, sex, disability, or age, but may use restrictions which relate to bona fide occupational qualifications. Specifically, the Contractor and his subcontractors shall not discriminate:

1. Against recipients of service on the basis of race, color, religion, national origin, sex, disability or age.
2. Against any employee or applicant, for employment on the basis of race, color, religion, national origin, sex or otherwise qualified disability status.
3. Against any applicant for employment or employee on the basis of age, where such applicant or employee is between ages 40 and 70 and where such Contractor employs at least 20 persons.
4. Against any applicant for employment or employee on the basis of that person's status as a disabled or Vietnam-era veteran.

The Contractor and his Subcontractors will take affirmative action to insure applicants for employment and employees are treated equally without regard to race, color, religion, national origin, sex, disability, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion and transfer; recruitment or recruitment advertising; and selection for training, including apprenticeship. The Contractor and his Subcontractors will give written notice of their commitments under this clause to any labor union with which they have bargaining or other agreements.

- B. The Contractor and his subcontractors shall develop, implement, maintain and submit in writing to the Owner an affirmative action program if at least fifty (50) persons in the aggregate are employed under this contract. If less than fifty (50) persons in the aggregate are to be employed under this contract, the Contractor shall submit, in lieu of the written affirmative action program, a properly executed Affidavit for Affirmative Action in the form included in the contract specifications. For the purpose of this section, an "affirmative action program" means positive action to influence all employment practices (including, but not limited to, recruiting, hiring, promoting and training) in providing equal employment opportunity regardless of race, color, sex, national origin, religion, age (where the person affected is between age 40 and 70), disabled and Vietnam-era veteran status, and disability. Such "affirmative action program" shall include:
1. A written policy statement committing the total organization to affirmative action and

assigning management responsibilities and procedures for evaluation and dissemination;

2. The identification of a person designated to handle affirmative action;
3. The establishment of non-discriminatory selection standards, objective measures to analyze recruitment, an upward mobility system, a wage and salary structure, and standards applicable to lay-off, recall, discharge, demotion and discipline;
4. The exclusion of discrimination from all collective bargaining agreements; and
5. Performance of an internal audit of the reporting system to monitor execution and to provide for future planning.

In the enforcement of this non-discrimination clause, the Owner may use any reasonable procedures available, including, but not limited to: requests, reports, site visits and inspection of relevant documents of contractors and subcontractors.

- C. In the event of the Contractor's or his subcontractor's noncompliance with any provisions of this Article of the Contract, the Owner may cancel this contract in whole or in part or require the Contractor to terminate his contract with the subcontractor.

ARTICLE 1.5 - ANTI-KICKBACK

No employee of the division, shall have or acquire any pecuniary interest, whether direct or indirect, in this contract or in any part hereof. No officer, employee, designer, attorney, or administrator of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of the project, shall have or acquire any pecuniary interest, whether direct or indirect, in this contract, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

ARTICLE 1.6 - PATENTS AND ROYALTIES

- A. The Contractor shall hold and save the Owner and its officers, agents, servants and employees harmless from liabilities of any nature or kind, including cost and expenses, for, or on account of, any patented or unpatented invention, process, article or appliance manufactured or used in the performance of this contract, including its use by the Owner, unless otherwise specifically stipulated in the contract documents.
- B. If the Contractor uses any design, device or materials covered by letters, patent or copyright,

the Contractor shall provide for such use by suitable agreement with the Owner of such patented or copyrighted design, device or material. It is mutually agreed and understood, without exception, that the contract prices shall include all royalties or costs arising from the use of such design, device or materials, in any way involved in the work. The Contractor and/or his sureties shall indemnify and save harmless the Owner of the project from any and all claims for infringement by reason of the use of such patented or copyrighted design, device or materials or any trademark or copyright in connection with work agreed to be performed under this contract and shall indemnify the Owner for any cost, expense or damage it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

ARTICLE 1.7 - PREFERENCE FOR AMERICAN AND MISSOURI PRODUCTS AND SERVICES

- A. By virtue of statutory authority a preference will be given to Missouri labor and to products of mines, forests and quarries of the state of Missouri when they are found in marketable quantities in the state, and all such materials shall be of the best quality and suitable character that can be obtained at reasonable market prices, all as provided for in Section 8.280, Missouri Revised Statutes and Cumulative Supplements.
- B. Furthermore, pursuant to Section 34.076 Missouri Revised Statutes and Cumulative Supplements, a preference shall be given to those persons doing business as Missouri firms, corporations, or individuals, or which maintain Missouri offices or places of business, when the quality of performance promised is equal or better and the price quoted is the same or less. In addition, in order for a non-domiciliary bidder to be successful, his bid must be that same percentage lower than a domiciliary Missouri bidder's bid, as would be required for a Missouri bidder to successfully bid in the non-domiciliary state.
- C. In accordance with the Missouri Domestic Products Procurement Act Section 34.350 RSMo and Cumulative Supplements any manufactured goods or commodities used or supplied in the performance of this contract or any subcontract thereto shall be manufactured, assembled or produced in the United States, unless the specified products are not manufactured, assembled or produced in the United States in sufficient quantities to meet the agency's requirements or cannot be manufactured, assembled or produced in the United States within the necessary time in sufficient quantities to meet the contract requirements, or if obtaining the specified products manufactured, assembled or produced in the

United States would increase the cost of this contract for purchase of the product by more than ten percent.

ARTICLE 1.8 - COMMUNICATIONS

- A. All notices, requests, instructions, approvals and claims must be in writing and shall be delivered to the Designer and copied to the Construction Representative for the project except as required by Article 1.12 Disputes and Disagreements, or as otherwise specified by the Owner in writing as stated in Section 012600. Any such notice shall be deemed to have been given as of the time of actual receipt.
- B. The Contractor shall attend on-site progress and coordination meetings, as scheduled by the Construction Representative, no less than once a month.
- C. The Contractor shall ensure that major subcontractors and suppliers shall attend monthly progress meetings as necessary to coordinate the work, and as specifically requested by the Construction Representative.

ARTICLE 1.9 - SEPARATE CONTRACTS AND COOPERATION

- A. The Owner reserves the right to let other contracts in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate his work with theirs.
- B. The Contractor shall consult the drawings for all other contractors in connection with this work. Any work conflicting with the above shall be brought to the attention of the Owner's Representative before the work is performed. If the Contractor fails to do this, and constructs any work which interferes with the work of another contractor, the Contractor shall remove any part so conflicting and rebuild same, as directed by the Owner's Representative at no additional cost to the Owner.
- C. Each contractor shall be required to coordinate his work with other contractors so as to afford others reasonable opportunity for execution of their work. No contractor shall delay any other contractor by neglecting to perform contract work at the proper time. If any contractor causes delay to another, they shall be liable directly to that contractor for such delay in addition to any liquidated damages which might be due the Owner.
- D. Should the Contractor or project associated subcontractors refuse to cooperate with the instructions and reasonable requests of other Contractors or other subcontractors in the overall

coordinating of the work, the Owner may take such appropriate action and issue directions, as required, to avoid unnecessary and unwarranted delays.

- E. Each Contractor shall be responsible for damage done to Owner's or other Contractor's property by him/her or workers in his employ through their fault or negligence.
- F. Should a Contractor sustain any damage through any act or omission of any other Contractor having a contract with the Owner, the Contractor so damaged shall have no claim or cause of action against the Owner for such damage, but shall have a claim or cause of action against the other Contractor to recover any and all damages sustained by reason of the acts or omissions of such Contractor. The phrase "acts or omissions" as used in this section shall be defined to include, but not be limited to, any unreasonable delay on the part of any such contractors.

ARTICLE 1.10 - ASSIGNMENT OF CONTRACT

- A. No assignment by Contractor of any amount or any part of this contract or of the funds to be received there under will be recognized unless such assignment has had the written approval of the Director and the surety has been given due notice of such assignment and has furnished written consent thereto. In addition to the usual recitals in assignment contracts, the following language must be set forth: "It is agreed that the funds to be paid to the assignee under this assignment are subject to performance by the Contractor of this contract and to claims or liens for services rendered or materials supplied for the performance of the work called for in said contract in favor of all persons, firms or corporations rendering such services or supplying such materials."

ARTICLE 1.11 - INDEMNIFICATION

- A. Contractor agrees to indemnify and save harmless Owner and its respective commissioners, officers, officials, agents, consultants and employees and Designer, their agents, servants and employees, from and against any and all liability for damage arising from injuries to persons or damage to property occasioned by any acts or omissions of Contractor, any subcontractors, agents, servants or employees, including any and all expense, legal or otherwise, which may be incurred by Owner or Designer, its agents, servants or employees, in defense of any claim, action or suit.
- B. The obligations of the Contractor under this paragraph shall not extend to the liability of the Designer, his agents or employees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, contract changes, design or specifications, or (2) giving of or the failure to

give directions or instructions by the Designer, his agents or employees as required by this contract documents provided such giving or failure to give is the primary cause of the injury or damage.

ARTICLE 1.12 - DISPUTES AND DISAGREEMENTS

It is hereby expressly agreed and understood that in case any controversy or difference of opinion arises during construction, best efforts will be given to resolution at the field level. Should those efforts be unsuccessful, the Contractor has the right to appeal in writing, the decision of the Director's Designee to the Director at Room 730 Truman Building, P.O. Box 809, Jefferson City, Missouri 65102. The decision of the Director shall be final and binding on all parties.

ARTICLE 2 -- OWNER/DESIGNER RESPONSIBILITIES

- A. The Owner shall give all orders and directions contemplated under this contract relative to the execution of the work. During progress of work the Owner will be represented at the project site by the Construction Representative and/or Designer, whose responsibilities are to see that this contract is properly fulfilled.
- B. The Owner shall at all times have access to the work whenever it is in preparation or progress. The Contractors shall provide proper facilities for such access and for inspection and supervision.
- C. All materials and workmanship used in the work shall be subject to the inspection of the Designer and Construction Representative, and any work which is deemed defective shall be removed, rebuilt or made good immediately upon notice. The cost of such correction shall be borne by the Contractor. Contractor shall not be entitled to an extension of the contract completion date in order to remedy defective work. All rejected materials shall be immediately removed from the site of the work.
- D. If the Contractor fails to proceed at once with the correction of rejected defective materials or workmanship, the Owner may, by separate contract or otherwise, have the defects remedied or rejected. Materials removed from the site and charge the cost of the same against any monies which may be due the Contractor, without prejudice to any other rights or remedies of the Owner.
- E. Failure or neglect on the part of Owner to observe faulty work, or work done which is not in accordance with the drawings and specifications shall not relieve the Contractor from responsibility

for correcting such work without additional compensation.

- F. The Owner shall have the right to direct the Contractor to uncover any completed work.
 - 1. If the Contractor fails to adequately notify the Construction Representative and/or Designer of an inspection as required by the Contract Documents, the Contractor shall, upon written request, uncover the work. The Contractor shall bear all costs associated with uncovering and again covering the work exposed.
 - 2. If the Contractor is directed to uncover work, which was not otherwise required by the Contract Documents to be inspected, and the work is found to be defective in any respect, no compensation shall be allowed for this work. If, however, such work is found to meet the requirements of this contract, the actual cost of labor and material necessarily involved in the examination and replacement plus 10% shall be allowed the Contractor.
- G. The Designer shall give all orders and directions contemplated under this contract relative to the scope of the work and shall give the initial interpretation of the contract documents.
- H. The Owner may file a written notice to the Contractor to dismiss immediately any subcontractors, project managers, superintendents, foremen, workers, watchmen or other employees whom the Owner may deem incompetent, careless or a hindrance to proper or timely execution of the work. The Contractor shall comply with such notice as promptly as practicable without detriment to the work or its progress.
- I. If in the Owner's judgment it becomes necessary at any time to accelerate work, when ordered by the Owner in writing, the Contractor shall redirect resources to such work items and execute such portions of the work as may be required to complete the work within the current approved contract schedule.

ARTICLE 3 -- CONTRACTOR RESPONSIBILITIES

The Contractor shall register and utilize the Owner's eBuilder digital project management system for submission of documents described in the following sections. This includes but is not limited to submittals as required by designer, payment applications, Request for Information (RFI), construction change orders, Request for Proposals (RFP), Designer Supplemental Instructions (DSI), etc.

ARTICLE 3.1 -- ACCEPTABLE SUBSTITUTIONS

- A. The Contractor may request use of any article, device, product, material, fixture, form or type of construction which in the judgment of the Owner and Designer is equal in all respects to that named. Standard products of manufacturers other than those specified will be accepted when, prior to the ordering or use thereof, it is proven to the satisfaction of the Owner and Designer that they are equal in design, strength, durability, usefulness and convenience for the purpose intended.
- B. Any changes required in the details and dimensions indicated on the drawings for the substitution of products other than those specified shall be properly made at the expense of the Contractor requesting the substitution or change.
- C. The Contractor shall submit a request for such substitutions in writing to the Owner and Designer within twenty (20) working days after the date of the "Notice to Proceed." Thereafter no consideration will be given to alternate forms of accomplishing the work. This Article does not preclude the Owner from exercising the provisions of Article 4 hereof.
- D. Any request for substitution by the Contractor shall be submitted in accordance with SECTION 002113 - INSTRUCTIONS TO BIDDERS.
- E. When a material has been approved, no change in brand or make will be permitted unless:
 - 1. Written verification is received from the manufacturer stating they cannot make delivery on the date previously agreed, or
 - 2. Material delivered fails to comply with contract requirements.

ARTICLE 3.2 -- SUBMITTALS

- A. The Contractor's submittals must be submitted with such promptness as to allow for review and approval so as not to cause delay in the work. The Contractor shall coordinate preparation and processing of submittals with performance of construction activities.

Coordinate each submittal with fabrication, = purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

Submit four (4) copies to the Designer and additional copies as required for the subcontractors and material suppliers. Also provide copies to meet the requirements for maintenance manuals.

- B. All subcontractors' shop drawings and schedules shall be submitted by the Contractor and shall bear evidence that Contractor has received, reviewed, and approved them. Any shop drawings and

schedules submitted without this evidence will be returned to the Contractor for resubmission.

- C. The Contractor shall include with the shop drawing, a letter indicating any and all deviations from the drawings and/or specifications. Failure to notify the Designer of such deviations will be grounds for subsequent rejection of the related work or materials. If, in the opinion of the Designer, the deviations are not acceptable, the Contractor will be required to furnish the item as specified and indicated on the drawings.
- D. The Designer shall check shop drawings and schedules with reasonable promptness and approve them only if they conform to the design concept of the project and comply with the information given in the contract documents. The approval shall not relieve the Contractor from the responsibility to comply with the drawings and specifications, unless the Contractor has called the Designer's attention to the deviation, in writing, at the time of submission and the Designer has knowingly approved thereof. An approval of any such modification will be given only under the following conditions:
 - 1. It is in the best interest of the Owner
 - 2. It does not increase the contract sum and/or completion time
 - 3. It does not deviate from the design intent
 - 4. It is without prejudice to any and all rights under the surety bond.
- E. No extension of time will be granted because of the Contractor's failure to submit shop drawings and schedules in ample time to allow for review, possible resubmission, and approval. Fabrication of work shall not commence until the Contractor has received approval. The Contractor shall furnish prints of approved shop drawings and schedules to all subcontractors whose work is in any way related to the work under this contract. Only prints bearing this approval will be allowed on the site of construction
- F. The Contractor shall maintain a complete file on-site of approved shop drawings available for use by the Construction Representative.

ARTICLE 3.3 – AS-BUILT DRAWINGS

- A. The Contractor shall update a complete set of the construction drawings, shop drawings and schedules of all work monthly by marking changes, and at the completion of their work (prior to submission of request for final payment) note all changes and turn the set over to the Construction Representative. The updates shall show all addenda, all field changes that were made to adapt to field conditions, changes resulting from contract

changes or supplemental instructions, and all locations of structures, buried installations of piping, conduit, and utility services. All buried and concealed items both inside and outside shall be accurately located as to depth and referenced to permanent features such as interior or exterior wall faces and dimensions shall be given in a neat and legible manner in a contrasting colored pencil or ink. If approved by the Designer, an electronic file format may be provided.

ARTICLE 3.4 – GUARANTY AND WARRANTIES

A. General Guaranty

- 1. Neither the final certificate of payment nor any provision in the contract documents nor partial use or occupancy of the premises by the Owner shall constitute an acceptance of work not done in accordance with contract requirements.
- 2. The Contractor or surety shall remedy any defects in the work and pay for any damage to property resulting there from which shall appear within a period of one (1) year from the date of substantial completion unless a longer period is otherwise specified or a differing guaranty period has been established in the substantial completion certificate. The Owner will give notice of observed defects with reasonable promptness.
- 3. In case of default on the part of the Contractor in fulfilling this part of this contract, the Owner may correct the work or repair the damage and the cost and expense incurred in such event shall be paid by or recoverable from the Contractor or surety.
- 4. The work will be free from defects not inherent in the quality required or permitted, and that the Work will conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor's guaranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage. If required by the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment

B. Extended Warranty

Manufacturer's certificates of warranty shall be obtained for all major equipment. Warranty shall be obtained for at least one year. Where a longer

period is offered at no additional cost or called for in the specific equipment specifications, the longer period shall govern.

ARTICLE 3.5 -- OPERATION AND MAINTENANCE MANUALS

A. Immediately after equipment submittals are approved and no later than ten (10) working days prior to the substantial completion inspection, the Contractor shall provide to the Designer three (3) copies of operating instructions and service manuals, containing the following:

1. Start-up and Shut-down Procedures: Provide a step-by-step write up of all major equipment. When manufacturer's printed start-up, trouble shooting and shut-down procedures are available; they may be incorporated into the operating manual for reference.
2. Operating Instructions: Written operating instructions shall be included for the efficient and safe operation of all equipment.
3. Equipment List: List of all major equipment as installed shall be prepared to include model number, capacities, flow rate, name place data, shop drawings and air and water balance reports.
4. Service Instructions: Provide the following information for all pieces of equipment.
 - a. Recommended spare parts including catalog number and name of local supplier or factory representative.
 - b. Belt sizes, types, and lengths.
 - c. Wiring diagrams.
5. Manufacturer's Certificate of Warranty as described in Article 3.4.
6. Prior to the final payment, furnish to the Designer three (4) copies of parts catalogs for each piece of equipment furnished by him/her on the project with the components identified by number for replacement ordering.

B. Submission of operating instructions shall be done in the following manner.

1. Manuals shall be in quadruplicate, and all materials shall be bound into volumes of standard 8½" x 11" hard binders. Large drawings too bulky to be folded into 8½" x 11" shall be separately bound or folded and in envelopes, cross referenced and indexed with the manuals.
2. The manuals shall identify project name, project number, and include the name and

address of the Contractor, subcontractors and manufacturers who were involved with the activity described in that particular manual.

3. Internally subdivide the binder contents with permanent page dividers, logically organized with tab titles clearly printed under reinforced laminated plastic tabs.
4. Contents: Prepare a Table of Contents for each volume, with each product or system description identified.

ARTICLE 3.6 – OTHER CONTRACTOR RESPONSIBILITIES

- A. The Contractor shall keep on site, during progress of the work, a competent superintendent satisfactory to the Construction Representative. The superintendent shall represent the Contractor and all agreements made by the superintendent shall be binding. The superintendent shall carefully study and compare all drawings, specifications and other instructions and shall promptly notify the Construction Representative and Designer, in writing, any error, inconsistency or omission which may be discovered. The superintendent shall coordinate all work on the project. Any change of the superintendent shall be approved by the Construction Representative.
- B. Contractor shall, at all times, enforce strict discipline and good order among his employees, and shall not employ on the work any unfit person or anyone not skilled in the work assigned to him/her.
- C. The Contractor shall supply sufficient labor, material, plant and equipment and pay when due any laborer, subcontractor or supplier for supplies furnished and otherwise prosecute the work with diligence to prevent work stoppage and insure completion thereof within the time specified.
- D. The Contractor and each of his subcontractors shall submit to the Construction Representative, through the Designer such schedules of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data as the Owner may request concerning work performed or to be performed under this contract.
- E. The Contractor, subcontractors, and material suppliers shall upon written request, give the Owner access to all time cards, material invoices, payrolls, estimates, profit and loss statements, and all other direct or indirect costs related to this work.
- F. The Contractor shall be responsible for laying out all contract work such as layout of architectural, structural, mechanical and electrical work, which shall be coordinated with layouts of subcontractors

for general construction work. The Contractor is also responsible for unloading, uncrating and handling of all materials and equipment to be erected or placed by him/her, whether furnished by Contractor or others. No extra charges or compensation will be allowed as a result of failure to verify dimensions before ordering materials or fabricating items.

- G. The Contractor must notify the Construction Representative at least one working day before placing concrete or burying underground utilities, pipelines, etc.
- H. Contractors shall prearrange time with the Construction Representative for the interruption of any facility operation. Unless otherwise specified in these documents, all connections, alterations or relocations as well as all other portions of the work will be performed during normal working hours.
- I. The Contractor shall coordinate all work so there will not be prolonged interruptions of existing equipment operation. Any existing plumbing, heating, ventilating, air conditioning or electrical disconnections necessary for the project, which affect portions of this construction or building or any other building must be scheduled with the Construction Representative to minimize or avoid any disruption of facility operations. In no case, unless previously approved in writing by the Construction Representative, shall utilities be left disconnected at the end of a work day or over a weekend. Any interruption of utilities either intentionally or accidentally shall not relieve the Contractor responsible for the interruption from the responsibility to repair and restore the utility to normal service. Repairs and restoration shall be made before the workers responsible for the repair and restoration leave the job.
- J. Contractors shall limit operations and storage of materials to the area within the project, except as necessary to connect to existing utilities, and shall not encroach on neighboring property. The Contractor shall be responsible for repair of their damage to property on or off the project site occurring during construction of project. All such repairs shall be made to the satisfaction of the property owner.
- K. Unless otherwise permitted, all materials shall be new and both workmanship and materials shall be of the best quality.
- L. Unless otherwise provided and stipulated within these specifications, the Contractor shall furnish, construct, and/or install and pay for materials, devices, mechanisms, equipment, all necessary personnel, utilities including, but not limited to water, heat, light and electric power, transportation

services, applicable taxes of every nature, and all other facilities necessary for the proper execution and completion of the work.

- M. Contractor shall carefully examine the plans and drawings and shall be responsible for the proper fitting of his material, equipment and apparatus into the building.
- N. The Contractor or subcontractors shall not overload, or permit others to overload, any part of any structure during the performance of this contract.
- O. All temporary shoring, bracing, etc., required for the removal of existing work and/or for the installation of new work shall be included in this contract. The Contractor shall make good, at no cost to the Owner, any damage caused by improper support or failure of shoring in any respect. Each Contractor shall be responsible for shoring required to protect his work or adjacent property and improvements of Owner and shall be responsible for shoring or for giving written notice to adjacent property owners. Shoring shall be removed only after completion of permanent supports.
- P. The Contractor shall provide at the proper time such material as is required for support of the work. If openings are required, whether shown on drawings or not, the Contractor shall see that they are properly constructed.
- Q. During the performance of work the Contractor shall be responsible for providing and maintaining warning signs, lights, signal devices, barricades, guard rails, fences and other devices appropriately located on site which will give proper and understandable warning to all persons of danger of entry onto land, structure or equipment.
- R. The Contractor shall be responsible for protection, including weather protection, and proper maintenance of all equipment and materials.
- S. The Contractor shall be responsible for care of the finished work and shall protect same from damage or defacement until substantial completion by the Owner. If the work is damaged by any cause, the Contractor shall immediately begin to make repairs in accordance with the drawings and specifications. Contractor shall be liable for all damage or loss unless attributable to the acts or omissions of the Owner or Designer. Any claim for reimbursement shall be submitted in accordance with Article 4. After substantial completion the Contractor will only be responsible for damage resulting from acts or omissions of the Contractor or subcontractors through final warranty.
- T. In the event the Contractor encounters an unforeseen hazardous material, the Contractor

shall immediately stop work in the area affected and report the condition to the Owner and Designer in writing. The Contractor shall not be required, pursuant to Article 4, to perform, any work relating to hazardous materials.

- U. In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 4.
- V. Before commencing work, Contractors shall confer with the Construction Representative and facility representative and review any facility rules and regulations which may affect the conduct of the work.
- W. Project signs will only be erected on major projects and only as described in the specifications. If no sign is specified, none shall be erected.

ARTICLE 3.7 -- SUBCONTRACTS

- A. Subcontractor assignments as identified in the bid form shall not be changed without written approval of the Owner. The Owner will not approve changes of a listed subcontractor unless the Contractor documents, to the satisfaction of the Owner that the subcontractor cannot or will not perform the work as specified.
- B. The Contractor is fully responsible to the Owner for the acts and omissions of all subcontractors and of persons either directly or indirectly employed by them.
- C. Every subcontractor shall be bound by the applicable terms and provisions of these contract documents, but no contractual relationship shall exist between any subcontractor and the Owner unless the right of the Contractor to proceed with the work is suspended or this contract is terminated as herein provided, and the Owner in writing elects to assume the subcontract.
- D. The Contractor shall upon receipt of "Notice to Proceed" and prior to submission of the first payment request, notify the Designer and Construction Representative in writing of the names of any subcontractors to be used in addition to those identified in the bid form and all major material suppliers proposed for all parts of the work.

ARTICLE 4 -- CHANGES IN THE WORK

4.1 CHANGES IN THE WORK

- A. The Construction Representative, without giving notice to the surety and without invalidating this contract, may order extra work or make changes by

altering, adding to or deducting from the work, this contract sum being adjusted accordingly. All such work shall be executed under the conditions of the original contract. A claim for extension of time caused by any change must be adjusted at the time of ordering such change. No future request for time will be considered.

- B. Each Contract Change shall include all costs required to perform the work including all labor, material, equipment, overheads and profit, delay, disruptions, or other miscellaneous expenses. No subsequent requests for additional compensation including claims for delay, disruption, or reduced efficiency as a result of each change will be considered. Values from the Schedule of Values will not be binding as a basis for additions to or deductions from the contract price.
- C. The amount of any adjustment in this contract price for authorized changes shall be agreed upon before such changes become effective and shall be determined, through submission of a request for proposal, as follows:
 - 1. By an acceptable fixed price proposal from the Contractor. Breakdowns shall include all takeoff sheets of each Contractor and subcontractor. Breakdown shall include a listing of each item of material with unit prices and number of hours of labor for each task. Labor costs per hour shall be included with labor burden identified, which shall be not less than the prevailing wage rate, etc. Overhead and profit shall be shown separately for each subcontractor and the Contractor.
 - 2. By a cost-plus-fixed-fee (time and material) basis with maximum price, total cost not to exceed said maximum. Breakdown shall include a listing of each item of material with unit prices and number of hours of labor for each task. Labor costs per hour shall be included with labor burden identified, which shall be not less than the prevailing wage rate, etc. Overhead and profit shall be shown separately for each subcontractor and the Contractor.
 - 3. By unit prices contained in Contractor's original bid form and incorporated in the construction contract.
- D. Overhead and Profit on Contract Changes shall be applied as follows:

- 1. The overhead and profit charge by the Contractor and all subcontractors shall be considered to include, but is not limited to: incidental job burdens, small truck (under 1 ton) expense, mileage, small hand tools,

warranty costs, company benefits and general office overhead. Project supervision including field supervision and job site office expense shall be considered a part of overhead and profit unless a compensable time extension is granted.

2. The percentages for overhead and profit charged on Contract Changes shall be negotiated, and may vary according to the nature, extent, and complexity of the work involved. However, the overhead and profit for the Contractor or subcontractor actually performing the work shall not exceed 14%. When one or more tiers of subcontractors are used, in no event shall any Contractor or subcontractor receive as overhead and profit more than 3% of the cost of the work performed by any of his subcontractors. In no case shall the total overhead and profit paid by the Owner on any Contract Changes exceed twenty percent (20%) of the cost of materials, labor and equipment (exclusive of Contractor or any Subcontractor overhead and profit) necessary to put the contract change work in place.
 3. The Contractor will be allowed to add the cost of bonding and insurance to their cost of work. This bonding and insurance cost shall not exceed 2% and shall be allowed on the total cost of the added work, including overhead and profit.
 4. On proposals covering both increases and decreases in the amount of this contract, the application of overhead and profit shall be on the net change in the cost of the work.
 5. The percentage for overhead and profit to be credited to the Owner on Contract Changes that are solely decreases in the quantity of work or materials shall be negotiated, and may vary according to the nature, extent and complexity of the work involved, but in no case shall be less than ten percent (10%). If the percentage for overhead and profit charged for work added by Contract Changes for this contract has been negotiated to less than 10%, the negotiated rate shall then apply to credits as well.
- E. No claim for an addition to this contract sum shall be valid unless authorized as aforesaid in writing by the Owner. In the event that none of the foregoing methods are agreed upon, the Owner may order the Contractor to perform work on a time and material basis. The cost of such work shall be determined by the Contractor's actual labor and material cost to perform the work plus overhead and profit as outlined herein. The

Designer and Construction Representative shall approve the Contractor's daily time and material invoices for the work involved.

- F. If the Contractor claims that any instructions involve extra cost under this contract, the Contractor shall give the Owner's Representative written notice thereof within a reasonable time after the receipt of such instructions, and in any event before proceeding to execute the work. No such claim shall be valid unless so made and authorized by the Owner, in writing.
- G. In an emergency affecting the safety of life or of the structure or of adjoining property, the Contractor, without special instruction or authorization from the Construction Representative, is hereby permitted to act at their discretion to prevent such threatened loss or injury. The Contractor shall submit a claim for compensation for such emergency work in writing to the Owner's Representative.

ARTICLE 4.2 – CHANGES IN COMPLETION TIME

- A. Extension of the number of work days stipulated in the Contract for completion of the work with compensation may be made when:
 1. The contractor documents that proposed Changes in the work, as provided in Article 4.1, extends construction activities critical to contract completion date, OR
 2. The Owner suspends all work for convenience of the Owner as provided in Article 7.3, OR
 3. An Owner caused delay extends construction activities critical to contract completion (except as provided elsewhere in these General Conditions). The Contractor is to review the work activities yet to begin and evaluate the possibility of rescheduling the work to minimize the overall project delay.
- B. Extension of the number of work days stipulated in the Contract for completion of the work without compensation may be made when:
 1. Weather-related delays occur, subject to provisions for the inclusion of a specified number of "bad weather" days when provided for in Section 012100-Allowances, OR
 2. Labor strikes or acts of God occur, OR
 3. The work of the Contractor is delayed on account of conditions which were beyond the control of the Contractor, subcontractors or suppliers, and were not the result of their fault or negligence.
- C. No time extension or compensation will be provided for delays caused by or within the control

of the Contractor, subcontractors or suppliers and for concurrent delays caused by the Owner.

- D. The Contractor shall notify the Owner promptly of any occurrence or conditions which in the Contractor's opinion results in a need for an extension of time. The notice shall be in writing and shall include all necessary supporting materials with details of any resultant costs and be submitted in time to permit full investigation and evaluation of the Contractor's claim. The Owner shall promptly acknowledge the Contractor's notice and, after recommendation from the Owner's Representative and/or Designer, shall provide a decision to the Contractor. Failure on the part of the Contractor to provide such notice and to detail the costs shall constitute a waiver by the Contractor of any claim. Requests for extensions of time shall be for working days only.

ARTICLE 5 - CONSTRUCTION AND COMPLETION

ARTICLE 5.1 – CONSTRUCTION COMMENCEMENT

- A. Upon receipt of the "Intent to Award" letter, the Contractor must submit the following properly executed instruments to the Owner:
 - 1. Contract;
 - 2. Performance/payment bond as described in Article 6.1;
 - 3. Certificates of Insurance, or the actual policies themselves, showing that the Contractor has obtained the insurance coverage required by Article 6.2.
 - 4. Written Affirmative Action Plans as required in Article 1.4.

Above referenced items must be received by the Owner within ten (10) working days after the effective date of the contract. If not received, the Owner may treat the failure to timely submit them as a refusal by the Contractor to accept a contract for this work and may retain as liquidated damages the Contractor's bid bond, cashier's check or certified check as provided in the Instructions to Bidders. Upon receipt the Owner will issue a "Notice to Proceed" with the work to the Contractor.

- B. Within the time frame noted in Section 013200 - Schedules, following receipt of the "Notice to Proceed", the Contractor shall submit to the Owner a progress schedule and schedule of values, showing activities through the end of the contract period. Should the Contractor not receive written notification from the Owner of the disapproval of the schedule of values within fifteen (15) working

days, the Contractor may consider it approved for purpose of determining when the first monthly Application and Certification for Payment may be submitted.

- C. The Contractor may commence work upon receipt of the Division of Facilities Management, Design and Construction's "Notice to Proceed" letter. Contractor shall prosecute the work with faithfulness and energy, and shall complete the entire work on or before the completion time stated in the contract documents or pay to the Owner the damages resulting from the failure to timely complete the work as set out within Article 5.4.

ARTICLE 5.2 -- PROJECT CONSTRUCTION

- A. Each Contractor shall submit for the Owner's approval, in reproducible form, a progress schedule showing the rate of progress and the order of the work proposed to carry on various phases of the project. The schedule shall be in conformance with the requirements outlined in Section 013200 – Schedules.
- B. Contractor shall employ and supply a sufficient force of workers, material, and equipment and shall pay when due, any worker, subcontractor or supplier and otherwise prosecute the work with such diligence so as to maintain the rate of progress indicated on the progress schedule, prevent work stoppage, and insure completion of the project within the time specified.

ARTICLE 5.3 -- PROJECT COMPLETION

- A. Substantial Completion. A Project is substantially complete when construction is essentially complete and work items remaining to be completed can be done without interfering with the Owner's ability to use the Project for its intended purpose.
 - 1. Once the Contractor has reached what they believe is Substantial Completion, the Contractor shall notify the Designer and the Construction Representative of the following:
 - a. That work is essentially complete with the exception of certain listed work items. The list shall be referred to as the "Contractor's Punch."
 - b. That all Operation and Maintenance Manuals have been assembled and submitted in accordance with Article 3.5A.
 - c. That the Work is ready for inspection by the Designer and Construction Representative. The Owner shall be entitled to a minimum of ten working

days notice before the inspection shall be performed.

2. If the work is acceptable, the Owner shall issue a Certificate of Substantial Completion, which shall set forth the responsibilities of the Owner and the Contractor for utilities, security, maintenance, damage to the work and risk of loss. The Certificate shall also identify those remaining items of work to be performed by the Contractor. All such work items shall be complete within 30 working days of the date of the Certificate, unless the Certificate specifies a different time. If the Contractor shall be required to perform tests that must be delayed due to climatic conditions, it is understood that such tests and affected equipment will be identified on the Certificate and shall be accomplished by the Contractor at the earliest possible date. Performance of the tests may not be required before Substantial Completion can be issued. The date of the issuance of the Certificate of Substantial Completion shall determine whether or not the work was completed within the contract time and whether or not Liquidated Damages are due.
 3. If the work is not acceptable, and the Owner does not issue a Certificate of Substantial Completion, the Owner shall be entitled to charge the Contractor with the Designer's and Owner's costs of re-inspection, including time and travel.
- B. Partial Occupancy. Contractor agrees that the Owner shall be permitted to occupy and use any completed or partially completed portions of the Project, when such occupancy and use is in the Owner's best interest. Owner shall notify Contractor of its desire and intention to take Partial Occupancy as soon as possible but at least ten (10) working days before the Owner intends to occupy. If the Contractor believes that the portion of the work the Owner intends to occupy is not ready for occupancy, the Contractor shall notify the Owner immediately. The Designer shall inspect the work in accordance with the procedures above. If the Contractor claims increased cost of the project or delay in completion as a result of the occupancy, he shall notify the Owner immediately but in all cases before occupancy occurs.
- C. Final Completion. The Project is finally complete when the Certificate of Substantial Completion has been issued and all work items identified therein as incomplete have been completed, and when all administrative items required by the contract have been completed. Final Completion entitles the Contractor to payment of the outstanding balance of the contract amount including all change orders

and retainage. Within five (5) working days of the date of the Certificate of Substantial Completion, the Contractor shall identify the cost to complete any outstanding items of work. The Designer shall review the Contractor's estimate and either approve it or provide an independent estimate for all such items. If the Contractor fails to complete the remaining items within the time specified in the Certificate, the Owner may terminate the contract and go to the surety for project completion in accordance with Article 7.2 or release the contract balance to the Contractor less 150% of the approved estimate to complete the outstanding items. Upon completion of the outstanding items, when a final cost has been established, any monies remaining shall be paid to the Contractor. Failure to complete items of work does not relieve the Contractor from the obligation to complete the administrative requirements of the contract, such as the provisions of Article 5.3 FAILURE TO COMPLETE ALL ITEMS OF WORK UNDER THE CONTRACT SHALL BE CONSIDERED A DEFAULT AND BE GROUNDS FOR CONTRACT TERMINATION AND DEBARMENT.

- D. Liquidated Damages. Contractor agrees that the Owner may deduct from the contract price and retain as liquidated damages, and not as penalty or forfeiture, the sum stipulated in this contract for each work day after the Contract Completion Day on which work is not Substantially Complete. Assessment of Liquidated Damages shall not relieve the Contractor or the surety of any responsibility or obligation under the Contract. In addition, the Owner may, without prejudice to any other rights, claims, or remedies the Owner may have including the right to Liquidated Damages, charge the Contractor for all additional expenses incurred by the Owner and/or Designer as the result of the extended contract period through Final Completion. Additional Expenses shall include but not be limited to the costs of additional inspections.
- E. Early Completion. The Contractor has the right to finish the work before the contract completion date; however, the Owner assumes no liability for any hindrances to the Contractor unless Owner caused delays result in a time extension to the contract completion date. The Contractor shall not be entitled to any claims for lost efficiencies or for delay if a Certificate of Substantial Completion is given on or before the Contract Completion Date.

ARTICLE 5.4 -- PAYMENT TO CONTRACTOR

- A. Payments on account of this contract will be made monthly in proportion to the work which has been completed. Request for payment must be submitted on the Owner's forms. No other pay request will

be processed. Supporting breakdowns must be in the same format as Owner's forms and must provide the same level of detail. The Designer will, within 5 working days from receipt of the contractor's request for payment either issue a Certificate for Payment to the Owner, for such amount as the Designer determines is properly due, or notify the Contractor in writing of reasons for withholding a Certificate. The Owner shall make payment within 30 calendar days after the "Application and Certification for Payment" has been received and certified by the Designer. The following items are to be attached to the contractor's pay request:

1. Updated construction schedule
 2. Certified payrolls consisting of name, occupation and craft, number of hours worked and actual wages paid for each individual employee, of the Contractor and all subcontractors working on the project
- B. The Owner shall retain 5 percent of the amount of each such payment application, except as allowed by Article 5.4, until final completion and acceptance of all work covered by this contract.
- C. Each payment made to Contractor shall be on account of the total amount payable to Contractor and all material and work covered by paid partial payment shall thereupon become the sole property of Owner. This provision shall not be construed as relieving Contractor from sole responsibility for care and protection of materials and work upon which payments have been made or restoration of any damaged work or as a waiver of the right of Owner to require fulfillment of all terms of this contract.
- D. Materials delivered to the work site and not incorporated in the work will be allowed in the Application and Certification for Payment on the basis of one hundred (100%) percent of value, subject to the 5% retainage providing that they are suitably stored on the site or in an approved warehouse in accordance with the following requirements:
1. Material has previously been approved through submittal and acceptance of shop drawings conforming to requirements of Article 3.2 of General Conditions.
 2. Delivery is made in accordance with the time frame on the approved schedule.
 3. Materials, equipment, etc., are properly stored and protected from damage and deterioration and remain so - if not, previously approved amounts will be deleted from subsequent pay applications.

4. The payment request is accompanied by a breakdown identifying the material equipment, etc. in sufficient detail to establish quantity and value.
- E. The Contractor shall be allowed to include in the Application and Certification for Payment, one hundred (100%) of the value, subject to retainage, of major equipment and material stored off the site if all of the following conditions are met:
1. The request for consideration of payment for materials stored off site is made at least 15 working days prior to submittal of the Application for Payment including such material. Only materials inspected will be considered for inclusion on Application for Payment requests.
 2. Materials stored in one location off site are valued in excess of \$25,000.
 3. That a Certificate of Insurance is provided indicating adequate protection from loss, theft conversion or damage for materials stored off site. This Certificate shall show the State of Missouri as an additional insured for this loss.
 4. The materials are stored in a facility approved and inspected, by the Construction Representative.
 5. Contractor shall be responsible for, Owner costs to inspect out of state facilities, and any delays in the completion of the work caused by damage to the material or for any other failure of the Contractor to have access to this material for the execution of the work.
- F. The Owner shall determine the amount, quality and acceptability of the work and materials which are to be paid for under this contract. In the event any questions shall arise between the parties, relative to this contract or specifications, determination or decision of the Owner or the Construction Representative and the Designer shall be a condition precedent to the right of the Contractor to receive any money or payment for work under this contract affected in any manner or to any extent by such question.
- G. Payments Withheld: The Owner may withhold or nullify in whole or part any certificate to such extent as may be necessary to protect the Owner from loss on account of:
1. Defective work not remedied. When a notice of noncompliance is issued on an item or items, corrective action shall be undertaken immediately. Until corrective action is completed, no monies will be paid and no additional time will be allowed for the item or

items. The cost of corrective action(s) shall be borne by the Contractor.

2. A reasonable doubt that this contract can be completed for the unpaid balance.
3. Failure of the Contractor to update as-built drawings monthly for review by the Construction Representative.
4. Failure of the Contractor to update the construction schedule.

When the Construction Representative is satisfied the Contractor has remedied above deficiencies, payment shall be released.

H. Final Payment: Upon receipt of written notice from the Contractor to the Designer and Project Representative that the work is ready for final inspection and acceptance, the Designer and Project Representative, with the Contractor, shall promptly make such inspection. If the work is acceptable and the contract fully performed, the Construction Representative shall complete a final acceptance report and the Contractor will be directed to submit a final Application and Certification for Payment. If the Owner approves the same, the entire balance shall be due and payable, with the exception of deductions as provided for under Article 5.4.

1. Where the specifications provide for the performance by the Contractor of (certain tests for the purpose of balancing and checking the air conditioning and heating equipment and the Contractor shall have furnished and installed all such equipment in accordance with the specifications, but said test cannot then be made because of climatic conditions, such test shall may be considered as required under the provisions of the specifications, Section 013300 and this contract may be substantial Full payment will not be made until the tests have been made and the equipment and system is finally accepted. If the tests are not completed when scheduled, the Owner may deduct 150% of the value of the tests from the final payment.
2. The final payment shall not become due until the Contractor delivers to the Construction Representative:
 - a) A complete file of releases, on the standard form included in the contract documents as "Final Receipt of Payment and Release Form", from subcontractors and material suppliers evidencing payment in full for services, equipment and materials, as the case may require, if the Owner approves, or a consent from

the Surety to final payment accepting liability for any unpaid amounts.

- b) An Affidavit of Compliance with Prevailing Wage Law, in the form as included in this contract specifications, properly executed by each subcontractor, and the Contractor
 - c) Certified copies of all payrolls
 - d) As-built drawings
3. If any claim remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such a claim including all costs and a reasonable attorney's fee.
 4. Missouri statute requires prompt payment from the Owner to the Contractor within thirty calendar days and from the Contractor to his subcontractors within fifteen calendar days. Failure to make payments within the required time frame entitles the receiving party to charge interest at the rate of one and one half percent per month calculated from the expiration of the statutory time period until paid.
 5. The value of all unused unit price allowances and/or 150% of the value of the outstanding work items, and/or liquidated damages may be deducted from the final pay request without executing a Contract Change. Any unit price items which exceed the number of units in the contract may be added by Contract Change.

ARTICLE 6 -- INSURANCE AND BONDS

ARTICLE 6.1 -- BOND

- A. Contractor shall furnish a performance/payment bond in an amount equal to 100% of the contract price to guarantee faithful performance of the contract and 100% of the contract price to guarantee the payment of all persons performing labor on the project and furnishing materials in connection therewith under this contract as set forth in the standard form of performance and payment bond included in the contract documents. The surety on such bond shall be issued by a surety company authorized by the Missouri Department of Insurance to do business in the state of Missouri.
- B. All Performance/Payment Bonds furnished in response to this provision shall be provided by a bonding company with a rating of B+ or higher as established by A.M. Best Company, Inc. in their most recent publication.

ARTICLE 6.2 – INSURANCE

A. The successful Contractor shall procure and maintain for the duration of the contract issued a policy or policies of insurance for the protection of both the Contractor and the Owner and their respective officers, officials, agents, consultants and employees. The Owner requires certification of insurance coverage from the Contractor prior to commencing work.

B. Minimum Scope and Extent of Coverage

1. General Liability

Commercial General Liability, ISO coverage form number or equivalent CG 00 01 ("occurrence" basis), or I-SO coverage form number CG 00 02, or ISO equivalent.

If ISO equivalent or manuscript general liability coverage forms are used, minimum coverage will be as follows: Premises/Operations; Independent Contractors; Products/Completed Operations; personal Injury; Broad Form Property Damage including Completed Operations; Broad Form Contractual Liability Coverage to include Contractor's obligations under Article 1.11 Indemnification and any other Special Hazards required by the work of the contract.

2. Automobile Liability

Business Automobile Liability Insurance, ISO Coverage form number or equivalent CA 00 01 covering automobile liability, code 1 "ANY AUTO".

3. Workers' Compensation and Employer's Liability

Statutory Workers' Compensation Insurance for Missouri and standard Employer's Liability Insurance, or the authorization to self-insure for such liability from the Missouri Division of Workers' Compensation.

4. Builder's Risk or Installation Floater Insurance

Insurance upon the work and all materials, equipment, supplies, temporary structures and similar items which may be incident to the performance of the work and located at or adjacent to the site, against loss or damage from fire and such other casualties as are included in extended coverage in broad "All Risk" form, including coverage for Flood and Earthquake, in an amount not less than the replacement cost of the work or this contract price, whichever is greater, with loss payable to Contractor and Owner as their respective interests may appear.

Contractor shall maintain sufficient insurance to cover the full value of the work and materials as the work progresses, and shall furnish Owner copies of all endorsements. If Builder's Risk Reporting- Form of Endorsement is used, Contractor shall make all reports as required therein so as to keep in force an amount of insurance which will equal the replacement cost of the work, materials, equipment, supplies, temporary structures, and other property covered thereby; and if, as a result of Contractor's failure to make any such report, the amount of insurance so recoverable shall be less than such replacement cost, Contractor's interest in the proceeds of such insurance, if any, shall be subordinated to Owner's interest to the end that Owner may receive full reimbursement for its loss.

C. Minimum Limits of Insurance

1. General Liability

Contractor	
\$2,000,000	combined single limit per occurrence for bodily injury, personal injury, and property damage
\$2,000,000	annual aggregate

2. Automobile Liability

\$2,000,000	combined single limit per occurrence for bodily injury and property damage
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3. Workers' Compensation and Employers Liability

Workers' Compensation limits as required by applicable State Statutes (generally unlimited) and minimum of \$1,000,000 limit per accident for Employer's Liability.

General Liability and Automobile Liability insurance may be arranged under individual policies for the full limits required or by a combination of underlying policies with the balance provided by a form-following Excess or Umbrella Liability policy.

D. Deductibles and Self-Insured Retentions

All deductibles, co-payment clauses, and self-insured retentions must be declared to and approved by the Owner. The Owner reserves the right to request the reduction or elimination of unacceptable deductibles or self-insured retentions, as they would apply to the Owner, and their respective officers, officials, agents, consultants and employees. Alternatively, the Owner may request Contractor to procure a bond guaranteeing

payment of losses and related investigations, claims administration, and defense expenses.

E. Other Insurance Provisions and Requirements

The respective insurance policies and coverage, as specified below, must contain, or be endorsed to contain the following conditions or provisions:

1. General Liability

The Owner, and its respective commissioners, officers, officials, agents, consultants and employees shall be endorsed as additional insured's by ISO form CG 20 26 Additional Insured - Designated Person or Organization. As additional insured's, they shall be covered as to work performed by or on behalf of the Contractor or as to liability which arises out of Contractor's activities or resulting from the performance of services or the delivery of goods called for by the Contract.

Contractor's insurance coverage shall be primary with respect to all additional insured's. Insurance of self-insurance programs maintained by the designated additional -insured's shall be excess of the Contractor's insurance and shall not contribute with it.

Additionally, the Contractor and Contractor's general liability insurer shall agree to waive all rights of subrogation against the Owner and any of their respective officers, officials, agents, consultants or employees for claims, losses, or expenses which arise out of Contractor's activities or result from the performance of services or the delivery of goods called for by the Contract.

Contractor's failure to comply with the terms and conditions of these insurance policies shall not affect or abridge coverage for the Owner, or for any of their officers, officials, agents, consultants or employees.

2. Automobile Insurance

The Owner, and their respective officers, officials, agents, consultants and employees shall be endorsed as additional insured's by ISO form CG 20 26 - Additional Insured Designated Person or Organization. As additional insured's, they shall be covered as to work performed by or on behalf of the Contractor or as to liability which arises out of Contractor's activities or resulting from the performance of services or the delivery of goods called for by the Contract.

Contractor's insurance coverage shall be primary with respect to all additional insured's. Insurance or self-insurance

programs maintained by the designated additional insured's shall be in excess of the Contractor's insurance and shall not contribute with it.

Additionally, the Contractor and Contractor's automobile insurer shall agree to waive all rights of subrogation against the Owner and any of their respective officers, officials, agents, consultants or employees for claims, losses, or expenses which arise out of Contractor's activities or result from the performance of services or the delivery of goods called for by the Contract.

Contractor's failure to comply with the terms and conditions of these insurance policies shall not affect or abridge coverage for the Owner or for any of its officers, officials, agents, consultants or employees.

3. Workers' Compensation/Employer's Liability

Contractor's workers' compensation insurance shall be endorsed with NCCI form WC 00 03 01 A - Alternative Employer Endorsement. The Alternative Employer Endorsement shall designate the Owner as "alternate employers."

4. All Coverages

Each insurance policy required by this section of the Contract shall contain a stipulation, endorsed if necessary, that the Owner will receive a minimum of a thirty (30) calendar day advance notice of any policy cancellation. Ten (10) calendar days advance notice is required for policy cancellation due to non-payment of premium.

F. Insurer Qualifications and Acceptability

Insurance required hereunder shall be issued by an A.M. Best, "B+" rated, Class IX insurance company approved to conduct insurance business in the state of Missouri.

G. Verification of Insurance Coverage

Prior to Owner issuing a Notice to Proceed, the Contractor shall furnish the Owner with Certificate(s) of Insurance and with any applicable original endorsements evidencing the required insurance coverage. The insurance certificates and endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements received by the Owner are subject to review and approval by the Owner. The Owner reserves the right to require certified copies of all required policies at any time. If the scope of this contract will exceed one (1) year - or, if any of Contractor's applicable insurance coverage expires prior to completion of the work or services required under this contract -

the Contractor will provide a renewal or replacement certificate before continuing work or services hereunder. If the Contractor fails to provide documentation of required insurance coverage, the Owner may issue a stop work order and no additional contract completion time and/or compensation shall be granted as a result thereof.

ARTICLE 7 – SUSPENSION OR TERMINATION OF CONTRACT

ARTICLE 7.1 - FOR SITE CONDITIONS

When conditions at the site of the proposed work are considered by the Owner to be unsatisfactory for prosecution of the work, the Contractor may be ordered in writing to suspend the work or any part thereof until reasonable conditions exist. When such suspension is not due to fault or negligence of the Contractor, time allowed for completion of such suspended work will be extended by a period of time equal to that lost due to delay occasioned by ordered suspension. This will be a no cost time extension.

ARTICLE 7.2 - FOR CAUSE

A. Termination or Suspension for Cause:

1. If the Contractor shall file for bankruptcy, or should make a general assignment for the benefit of the creditors, or if a receiver should be appointed on account of insolvency, or if the contractor should persistently or repeatedly refuse or fail to supply enough properly skilled workers or proper materials, or if the contractor should fail to make prompt payment to subcontractors or for material or labor, or persistently disregard laws, ordinances or the instructions of the Owner, or otherwise be guilty of a substantial violation of any provision of this contract, then the Owner may serve notice on the Contractor and the surety setting forth the violations and demanding compliance with this contract. Unless within ten (10) consecutive calendar days after serving such notice, such violations shall cease and satisfactory arrangements for correction be made, the Owner may suspend the Contractor's right to proceed with the work or terminate this contract.
2. In the event the Owner suspends Contractor's right to proceed with the work or terminates the contract, the Owner may demand that the Contractor's surety take over and complete the work on this contract, after the surety submits a written proposal to the Owner and receives written approval and upon the surety's failure or refusal to do so within ten (10) consecutive

calendar days after demand therefore, the Owner may take over the work and prosecute the same to completion by bid or negotiated contract, or the Owner may elect to take possession of and utilize in completing the work such materials, supplies, appliances and plant as may be on the site of the work, and all subcontractors, if the Owner elects, shall be bound to perform their contracts.

- B. The Contractor and its surety shall be and remain liable to the Owner for any excess cost or damages occasioned to the Owner as a result of the actions above set forth.
- C. The Contractor in the event of such suspension or termination shall not be entitled to receive any further payments under this contract until the work is wholly finished. Then if the unpaid balance under this contract shall exceed all expenses of the Owner as certified by the Director, such excess shall be paid to the Contractor; but, if such expenses shall exceed the unpaid balance as certified by the Director, the Contractor and their surety shall be liable for and shall pay the difference and any damages to the Owner.
- D. In exercising Owner's right to secure completion of the work under any of the provisions hereof, the Director shall have the right to exercise Owner's sole discretion as to the manner, methods and reasonableness of costs of completing the work.
- E. The rights of the Owner to suspend or terminate as herein provided shall be cumulative and not exclusive and shall be in addition to any other remedy provided by law.
- F. The Contractor in the event of such suspension or termination may be declared ineligible for Owner contracts for a minimal period of twelve (12) months. Further, no contract will be awarded to any Contractor who lists in their bid form any subcontractor whose prior performance has contributed, as determined by the Owner, to a breach of a contract. In order to be considered for state-awarded contracts after this period, the Contractor/subcontractor will be required to forward acceptance reports to the Owner regarding successful completion of non-state projects during the intervening twelve (12) months from the date of default. No contracts will be awarded to a subcontractor/Contractor until the ability to perform responsibly in the private sector has been proven to the Owner.

ARTICLE 7.3 -- FOR CONVENIENCE

- A. The Owner may terminate or suspend the Contract or any portion of the Work without cause at any time, and at the Owner's convenience. Notification of a termination or suspension shall be in writing

and shall be given to the Contractor and their surety. If the Contract is suspended, the notice will contain the anticipated duration of the suspension or the conditions under which work will be permitted to resume. If appropriate, the Contractor will be requested to demobilize and re-mobilize and will be reimbursed time and costs associated with the suspension.

B. Upon receipt of notification, the Contractor shall:

1. Cease operations when directed.
2. Take actions to protect the work and any stored materials.
3. Place no further subcontracts or orders for material, supplies, services or facilities except as may be necessary to complete the portion of the Contract that has not been terminated. No claim for payment of materials or supplies ordered after the termination date shall be considered.
4. Terminate all existing subcontracts, rentals, material, and equipment orders.

5. Settle all outstanding liabilities arising from termination with subcontractors and suppliers.

6. Transfer title and deliver to the Owner, work in progress, completed work, supplies and other material produced or acquire for the work terminated, and completed or partially completed plans, drawings information and other property that, if the Contract had been completed, would be required to be furnished to the Owner.

C. For termination without cause and at the Owner's convenience, in addition to payment for work completed prior to date of termination, the Contractor may be entitled to payment of other documented costs directly associated with the early termination of the contract. Payment for anticipated profit and unapplied overhead will not be allowed.

SECTION 007300 - SUPPLEMENTARY CONDITIONS

1.0 GENERAL:

A. These Supplementary General Conditions clarify, add, delete, or otherwise modify standard terms and conditions of DIVISION 0, BIDDING AND CONTRACTING REQUIREMENTS.

2.0 CONTACTS:

Designer:

Adam Flock
TreanorHL
1811 Baltimore Avenue
Kansas City, MO 64108
Telephone: 816-221-0900
Email: aflock@treanorhl.com

Construction Representative:

Robert Rehagen
Division of Facilities Management, Design and Construction
201 West Capitol Ave, Room B2
Jefferson City, MO 65101
Telephone: 573-522-0002
Email: robert.rehagen@oa.mo.gov

Project Manager:

Andrew Friedmeyer
Division of Facilities Management, Design and Construction
301 West High Street, Room 730
Jefferson City, MO 65101
Telephone: 314-244-9462
Email: andrew.friedmeyer@oa.mo.gov

Contract Specialist:

Paul Girouard
Division of Facilities Management, Design and Construction
301 West High Street, Room 730
Jefferson City, Missouri 65101
Telephone: 573-751-4797
Email: paul.girouard@oa.mo.gov

3.0 NOTICE: ALL BID MATERIALS ARE DUE AT THE TIME OF BID SUBMITTAL. THERE IS NO SECOND SUBMITTAL FOR THIS PROJECT.

4.0 FURNISHING CONSTRUCTION DOCUMENTS:

- A. The Owner will furnish the Contractor with approximately 5 complete sets of drawings and specifications at no charge.
- B. The Owner will furnish the Contractor with approximately 5 sets of explanatory or change drawings at no charge.
- C. The Contractor may make copies of the documents as needed with no additional cost to the Owner.

5.0 SAFETY REQUIREMENTS

Contractor and subcontractors at any tier shall comply with RSMo 292.675 and Article 1.3, E, of Section 007213, General Conditions.

Missouri

Division of Labor Standards

WAGE AND HOUR SECTION



MICHAEL L. PARSON, Governor

Annual Wage Order No. 30

Section 026
COLE COUNTY

In accordance with Section 290.262 RSMo 2000, within thirty (30) days after a certified copy of this Annual Wage Order has been filed with the Secretary of State as indicated below, any person who may be affected by this Annual Wage Order may object by filing an objection in triplicate with the Labor and Industrial Relations Commission, P.O. Box 599, Jefferson City, MO 65102-0599. Such objections must set forth in writing the specific grounds of objection. Each objection shall certify that a copy has been furnished to the Division of Labor Standards, P.O. Box 449, Jefferson City, MO 65102-0449 pursuant to 8 CSR 20-5.010(1). A certified copy of the Annual Wage Order has been filed with the Secretary of State of Missouri.

Original Signed by _____

Todd Smith, Director
Division of Labor Standards

Filed With Secretary of State: _____ **March 10, 2023**

Last Date Objections May Be Filed: **April 10, 2023**

Prepared by Missouri Department of Labor and Industrial Relations

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Asbestos Worker	\$60.26
Boilermaker	\$28.77*
Bricklayer	\$55.66
Carpenter	\$49.39
Lather	
Linoleum Layer	
Millwright	
Pile Driver	
Cement Mason	\$43.32
Plasterer	
Communications Technician	\$57.11
Electrician (Inside Wireman)	\$58.40
Electrician Outside Lineman	\$28.77*
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Elevator Constructor	\$98.59
Glazier	\$28.77*
Ironworker	\$62.53
Laborer	\$43.32
General Laborer	
First Semi-Skilled	
Second Semi-Skilled	
Mason	\$28.77*
Marble Mason	
Marble Finisher	
Terrazzo Worker	
Terrazzo Finisher	
Tile Setter	
Tile Finisher	
Operating Engineer	\$62.81
Group I	
Group II	
Group III	
Group III-A	
Group IV	
Group V	
Painter	\$41.55
Plumber	\$68.06
Pipe Fitter	
Roofer	\$52.39
Sheet Metal Worker	\$56.48
Sprinkler Fitter	\$64.54
Truck Driver	\$28.77*
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. The public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.

**The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title as defined in RSMO Section 290.210.

Heavy Construction Rates for
COLE County

Section 026

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Carpenter	\$53.39
Millwright	
Pile Driver	
Electrician (Outside Lineman)	\$28.77*
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Laborer	\$47.92
General Laborer	
Skilled Laborer	
Operating Engineer	\$60.89
Group I	
Group II	
Group III	
Group IV	
Truck Driver	\$47.77
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

Use Heavy Construction Rates on Highway and Heavy construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(3).

Use Building Construction Rates on Building construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(2).

If a worker is performing work on a heavy construction project within an occupational title that is not listed on the Heavy Construction Rate Sheet, use the rate for that occupational title as shown on the Building Construction Rate Sheet.

*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. Public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.

**The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title.

OVERTIME and HOLIDAYS

OVERTIME

For all work performed on a Sunday or a holiday, not less than twice (2x) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work.

For all overtime work performed, not less than one and one-half (1½) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work or contractual obligation. For purposes of this subdivision, "**overtime work**" shall include work that exceeds ten hours in one day and work in excess of forty hours in one calendar week; and

A thirty-minute lunch period on each calendar day shall be allowed for each worker on a public works project, provided that such time shall not be considered as time worked.

HOLIDAYS

January first;
The last Monday in May;
July fourth;
The first Monday in September;
November eleventh;
The fourth Thursday in November; and
December twenty-fifth;

If any holiday falls on a Sunday, the following Monday shall be considered a holiday.

SECTION 011000 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Project consists of **Restoration of Bronze Doors**.
1. Project Location: **Missouri State Capitol Building, 201 West Capitol Avenue, Jefferson City, MO 65101.**
 2. Owner: State of Missouri, Office of Administration, Division of Facilities Management, Design and Construction, Harry S Truman State Office Building, Post Office Box 809, 301 West High Street, Jefferson City, Missouri 65102.
- B. Contract Documents, dated **June 9, 2023** were prepared for the Project by **TreanorHL, 1811 Baltimore Avenue, Kansas City, MO 64111.**
- C. **Summary of Work:** The project will provide for the restoration, cleaning, and refinishing of all three of the bronze doors on the south portico of the Missouri State Capitol. This includes full cleaning and restoration of all doors, full repairs to east and west pocket bronze doors, and full repair to the center bronze door, including both the inner and outer panel of each of the doors' leaves. Operational deficiencies affecting the bronze doors are to be corrected through repairs, reconstruction of parts, and removal and reinstallation. All latching, hinging, and hardware misalignment issues will be corrected so that the doors can be completely functional. Previous in-depth diagnostic work was performed with the necessary tools to gain access to key internal components and parts, to fully diagnose the malfunctioning conditions. Proper cleaning, restoration, and preservation of all bronze door, frame, transom, and all other bronze components to remove all staining and deterioration and fully restore the patina finish to the original statuary bronze finish is to be completed. The base/alternate scope of work of the project is defined below:

Base Bid Work:

Remove the four leaves of the historic bronze monumental bi-fold doors (c200) from the opening to allow for proper restoration with the intent of having the doors fully operational, as originally designed. Assess, diagnose, reconstruct, and/or replace the four pivot hinges. Ream out the pivot housing. Provide and install new pivot assemblies. Replace and install intermediate hinges between the meeting leaf and carrying leaf. Completely remove the doors from the opening, transport to a facility off site, and lay flat for hinge work and all other work to be completed. Remove the outer cast bronze panels of door c200, leaves 1, 2, 3, and 4, from the inner steel frame so that the frame can be assessed for deficiencies in its rigidity, integrity, and consistency in level & plumb. The inner frames of each leaf require repair, alteration, partial reconstruction, or complete overhaul. Assume complete overhaul for bidding purposes. Modify or adjust the receiver for the meeting leaf attachment to allow for smooth operation. Fabricate any missing bronze trim, bronze decorative element, or hardware that is missing and replace in kind. Provide and install a temporary, weather tight, waterproof, insulated, secure enclosure during the off-site restoration. See 024119 "Selected Demolition" and 080311-01 & 02 "Historic Treatment of Bronze Doors" for more

specific information regarding temporary enclosure. Remove the threshold assembly at the center monumental bronze door in its entirety. Suspected water/moisture infiltration has damaged the assembly, resulting in significant rust jacking. Examine the existing conditions beneath the threshold with focus on the bottom pin/pivot and steel channel. Remove (e) epoxy fill in (e) steel channel. Replace (e) steel channel with stainless steel member. Using modern means and methods, the threshold should be properly restored and reinstalled to ensure doors' proper, intended function. Carefully and completely disassemble the wood & glass vestibule beyond the bronze bi-fold doors and the two pocket niches to provide access for the removal of the bronze bi-fold door interior casing trim and two bronze pocket niches with bronze soffit panels. After repair work, reinstall the bronze bi-fold doors, the two pocket niches, the wood & glass vestibule and reassemble to match the original layout and construction. Completely remove the sliding pocket doors from the opening and properly restore. Clean the sliding door pockets and inspect the trolley and rails. Clean, adjust, and return the replacement trolleys rails, bolts, pins, and hardware to smooth operation. Once the monumental bi-fold bronze doors have been removed, construct a temporary, weather tight, waterproof, insulated, secure enclosure within the opening. Construct white-painted plywood and wood framed wall with an opening featuring a hollow metal double door, keyed, including a removable mullion, during the off-site restoration of the bronze doors. Once the pocket bronze doors have been removed, build a similar temporary enclosure within the openings. Construct white-painted plywood and wood-framed wall with no access door. Remove and verify proper location of threshold and re-secure in original location.

Alternate #1 work:

Pin and fill cracks and holes in the exterior limestone lintel above the bronze bi-fold doors. See 040342 "Historic Stone Masonry Repair".

Alternate #2 work:

Install card readers and new door hardware on existing vestibule doors to allow for staff to enter from the exterior when the bronze doors are open. New hardware includes mag-locks, closers, power supplies, and request to exit motion sensors. Integrate new card readers and door hardware into existing security system. See 087100 "Door Hardware" and 281000 "Access Control".

D. The Work will be constructed under a single prime contract.

1.3 WORK SEQUENCE

A. The Work will be conducted in **three (3) phases**.

1. **Phase 1: On-Site Disassembly + Install Temporary Enclosure**

Removal of center bi-fold door, east pocket door, and west pocket door. Removal of all hardware, decorative elements, and all parts and systems involved in the standard operation of the doors. Construct a temporary, weather tight, waterproof, and insulated secure enclosure within each opening. Transport all doors, hardware, and other parts to off-site restoration facility.

Work on Phase 1 to be completed prior to December 29, 2023.

2. **Phase 2: Off-Site Restoration**

Fully clean and restore of all doors, including the inner and outer panels of each of the doors' leaves. Correct operational deficiencies through repairs, reconstruction of parts, and removal and reinstallation. Properly clean, restore,

and preserve bronze door, frame, transom, and all other bronze components to remove all staining and deterioration and fully restore the patina finish. No on-site work is permitted during this phase.

Work on Phase 2 to be complete by May 15, 2024.

3. **Phase 3: On-Site Reassembly**

Remove temporary enclosures. Reinstall center bi-fold door, east pocket door, and west pocket door. Reinstall all hardware, decorative elements, and all parts and systems involved in the standard operation of the doors.

Work on Alternate #1 (if accepted) to occur during this Phase.

Work on Alternate #2 (if accepted) to occur during this Phase.

Work on Phase 3 to occur between May 15, 2024 and December 13, 2024. All work shall be substantially complete and ready for official occupancy prior to December 13, 2024.

1.4 CONTRACTOR USE OF PREMISES

- A. General: During the construction period the Contractor shall have full use of the premises for construction operations, including use of the site. The Contractor's use of the premises limited only by the Owner's right to perform work or to retain other contractors on portions of the Project.
- B. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
 - 1. Owner Occupancy: Allow for Owner occupancy and use by the public.
 - 2. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Use of the Existing Building: Maintain the existing building in a weathertight condition throughout the construction period. Repair damage cause by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period..

1.5 OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: The Owner will occupy the site and existing building during the entire construction period. Cooperate with the Owner during construction operations to minimize conflicts and facilitate owner usage. Perform the Work so as not to interfere with the Owner's operations.

END OF SECTION 011000

SECTION 012100 – ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
 - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
 - 1. Lump-sum allowances.
 - 2. Weather allowances.
- C. Related Sections include the following:
 - 1. Division 1 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders for allowances.
 - 2. Division 1 Section "Unit Prices" for procedures for using unit prices.

1.3 WEATHER ALLOWANCE

- A. Included within the completion period for this project are a specified number of “bad weather” days (see Schedule of Allowances).
- B. The Contractor’s progress schedule shall clearly indicate the bad weather day allowance as an “activity” or “activities”. In the event weather conditions preclude performance of critical work activities for 50% or more of the Contractor’s scheduled workday, that day shall be declared unavailable for work due to weather (a “bad weather” day) and charged against the above allowance. Critical work activities will be determined by review of the Contractor’s current progress schedule.
- C. The Contractor’s Representative and the Construction Representative shall agree monthly on the number of “bad weather” days to be charged against the allowance. This determination will be documented in writing and be signed by the Contractor and the Construction Representatives. If there is a failure to agree on all or part of the “bad weather” days for a particular month, that disagreement shall be noted on this written document and signed by each party’s representative. Failure of the Contractor’s representative to sign the “bad weather” day documentation after it is presented, with or without the notes of disagreement, shall constitute agreement with the “bad weather” day determination contained in that document.

- D. There will be no modification to the time of contract performance due solely to the failure to deplete the “bad weather” day allowance.
- E. Once this allowance is depleted, a no cost Change Order time extension will be executed for “bad weather” days, as defined above, encountered during the remainder of the Project.

1.4 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, Designer of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At Designer's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Designer from the designated supplier.

1.5 SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.
- B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.7 [LUMP-SUM] ALLOWANCES

- A. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials [selected by Designer] under allowance shall be included as part of the Contract Sum and not part of the allowance.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 **PREPARATION**

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

3.3 **SCHEDULE OF ALLOWANCES**

- A. Weather Allowance: Included within the completion period for this Project is 5 “bad weather” days
- B. Facility Allowance: Included within the completion period for this Project is 10 “facility interruption” days.

END OF SECTION 012100

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing Alternates.

1.3 DEFINITIONS

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

- 1. The cost for each alternate is the net addition to the Contract Sum to incorporate the Alternate into the Work. No other adjustments are made to the Contract Sum.

- B. No additional time will be allowed for alternate work unless the number of work days is so stated on the bid form.

1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent Work as necessary to completely and fully integrate the Alternate Work into the Project.

- 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not mentioned as part of the Alternate.

- B. Notification: The award of the Contract will indicate whether alternates have been accepted or rejected.

- C. Execute accepted alternates under the same conditions as other Work of this Contract.

- D. Schedule: A "Schedule of Alternates" is included at the end of this Section. Specification Sections referenced in the Schedule contain requirements for materials necessary to achieve the Work described under each alternate.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1: *Stone Crack Repair*

Pin and fill cracks and holes in the exterior limestone lintel above the bronze bi-fold doors. See 040342 "historic stone masonry repair".

1. 04 0342 – Historic Stone Masonry Repair

B. Alternate No. 2: *New Door Hardware & Security – Doors 201, 202, 203, 204, & 205*

Install card readers and new door hardware on existing vestibule doors to allow for staff to enter from the exterior when the bronze doors are open. New hardware includes mag-locks, closers, power supplies, and push button exit. Integrate new card readers and door hardware to existing security system. See 087100 "door hardware" and 281000 "access control".

1. 08 7100 – Door Hardware
2. 28 1000 – Access Control

END OF SECTION 012300

SECTION 012600 – CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract Modifications.
- B. Related Sections include the following:
 - 1. Division 1, Section 012100 "Allowances" for procedural requirements for handling and processing Allowances.
 - 2. Division 1, Section 012200 "Unit Prices" for administrative requirements for using Unit Prices.
 - 3. Division 1, Section 013115 "Project Management Communications" for administrative requirements for communications.
 - 4. Division 0, Section 007213, Article 3.1 "Acceptable Substitutions" for administrative procedures for handling Requests for Substitutions made after Contract award.
 - 5. Division 0, Section 007213, Article 4.0 "Changes in the Work" for Change Order requirements.

1.3 REQUESTS FOR INFORMATION

- A. In the event that the Contractor or Subcontractor, at any tier, determines that some portion of the Drawings, Specifications, or other Contract Documents requires clarification or interpretation, the Contractor shall submit a "Request for Information" (RFI) in writing to the Designer. A RFI may only be submitted by the Contractor and shall only be submitted on the RFI forms provided by the Owner. The Contractor shall clearly and concisely set forth the issue for which clarification or interpretation is sought and why a response is needed. In the RFI, the Contractor shall set forth an interpretation or understanding of the requirement along with reasons why such an understanding was reached.
- B. Responses to RFI shall be issued within ten (10) working days of receipt of the Request from the Contractor unless the Designer determines that a longer time is necessary to provide an adequate response. If a longer time is determined necessary by the Designer, the Designer will, within five (5) working days of receipt of the request, notify the Contractor of the anticipated response time. If the Contractor submits a RFI on a time sensitive activity on the current project schedule, the Contractor shall not be entitled to any time extension due to the time it takes the Designer to respond to the request provided that the Designer responds within the ten (10) working days set forth above.

- C. Responses from the Designer will not change any requirement of the Contract Documents. In the event the Contractor believes that a response to a RFI will cause a change to the requirements of the Contract Document, the Contractor shall give written notice to the Designer requesting a Change Order for the work. Failure to give such written notice within ten (10) working days, shall waive the Contractor's right to seek additional time or cost under Article 4, "Changes in the Work" of the General Conditions.

1.4 MINOR CHANGES IN THE WORK

- A. Designer will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Amount or the Contract Time, on "Designer's Supplemental Instructions" (DSI).

1.5 PROPOSAL REQUESTS

- A. The Designer or Owner Representative will issue a detailed description of proposed Changes in the Work that may require adjustment to the Contract Amount or the Contract Time. The proposed Change Description will be issued using the "Request for Proposal" (RFP) form. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by the Designer or Owner Representative are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within ten (10) working days after receipt of Proposal Request, submit a proposal for the cost adjustments to the Contract Amount and the Contract Time necessary to execute the Change. The Contractor shall submit his proposal on the appropriate Change Order Detailed Breakdown form. Subcontractors may use the appropriate Change Order Detailed Breakdown form or submit their proposal on their letterhead provided the same level of detail is included. All proposals shall include:
 - a. A detailed breakdown of costs per Article 4.1 of the General Conditions.
 - b. If requesting additional time per Article 4.2 of the General Conditions, include an updated Contractor's Construction Schedule that indicates the effect of the Change including, but not limited to, changes in activity duration, start and finish times, and activity relationship.

1.6 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, the Designer or Owner Representative will issue a Change Order for signatures of Owner and Contractor on the "Change Order" form.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 013100 – COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Projects including, but not limited to, the following:
 - 1. Coordination Drawings.
 - 2. Administrative and supervisory personnel.
 - 3. Project meetings.
- B. Each Contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific Contractor.
- C. Related Sections include the following:
 - 1. Division 1, Section 013200 "Schedules" for preparing and submitting Contractor's Construction Schedule.
 - 2. Articles 1.8.B and 1.8.C of Section 007213 "General Conditions" for coordinating meetings onsite.
 - 3. Article 5.4.H of Section 007213 "General Conditions" for coordinating Closeout of the Contract.

1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections, which depend on each other for proper installation, connection, and operation.
- B. Coordination: Each Contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each Contractor shall coordinate its operations with operations included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other Contractors to ensure maximum accessibility for required maintenance, service, and repair.

3. Make adequate provisions to accommodate items scheduled for later installation.
 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components including mechanical and electrical.
- C. Prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate Contractors if coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other Contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's Construction Schedule.
 2. Preparation of the Schedule of Values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Startup and adjustment of systems.
 8. Project Closeout activities.
- E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.4 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
- B. Key Personnel Names: Within fifteen (15) work days of starting construction operations, submit a list of key personnel assignments including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.5 PROJECT MEETINGS

- A. The Owner's Construction Representative will schedule a Pre-Construction Meeting prior to beginning of construction. The date, time, and exact place of this meeting will be determined after Contract Award and notification of all interested parties. The Contractor shall arrange to have the Job Superintendent, the Specialty Bronze Door Contractor, and all prime Subcontractors present at the meeting. During the Pre-Construction Meeting, the construction procedures and information necessary for submitting payment requests will be discussed and materials distributed along with any other pertinent information.
 1. Minutes: Designer will record and distribute meeting minutes.
- B. Progress Meetings: The Owner's Construction Representative will conduct Monthly Progress Meetings as stated in Articles 1.8.B and 1.8.C of Section 007213 "General Conditions".
 1. Minutes: Designer will record and distribute Contractor the meeting minutes.
- C. Salvage & Restoration Conferences: Contractor shall conduct bronze door, bronze surround, and wood and glass vestibule salvage conferences at Project site before each construction activity that requires coordination with other construction. Contractor shall also conduct restoration conferences at the temporary warehouse location before each construction activity that requires coordination with other parts of the bronze door restoration process.
 1. Attendees: Specialty Bronze Door Contractor and all other prime sub-contractors engaged in salvaging and/or refinishing bronze components. Advise Designer and Construction Representative of scheduled meeting dates.
 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration including requirements for the following:
 - a. Contract Documents
 - b. Options
 - c. Related RFIs
 - d. Related Change Orders
 - e. Purchases
 - f. Deliveries
 - g. Submittals
 - h. Review of mockups
 - i. Possible conflicts
 - j. Temporary Shoring
 - k. Temporary Bracing

- l. Transportation Plan
 - m. Site Staging & Crane Operation/Location
 - n. Protection of Existing Building, Statues, and other Site Features
 - o. Disassembly of Bronze Doors
 - p. Inspection of Bronze Door Inner Framework & Components
 - q. Repair/Replacement of Bronze Door Inner Framework & Components
 - r. Cleaning & Refinishing Bronze
 - s. Compatibility problems
 - t. Time schedules
 - u. Weather limitations
 - v. Space and access limitations
 - w. Regulations of authorities having jurisdiction
 - x. Testing and inspecting requirements
 - y. Coordination with other Work
 - z. Protection of construction and personnel
3. Contractor shall record significant conference discussions, agreements, and disagreements including required corrective measures and actions.
 4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 5. Do not proceed with removal of doors or surrounding historic elements if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
 6. Revise paragraph below if Project requires holding progress meetings at different intervals. Insert special intervals such as "every third Tuesday" to suit special circumstances.
 7. Project name
 8. Name and address of Contractor
 9. Name and address of Designer
 10. RFI number including RFIs that were dropped and not submitted
 11. RFI description
 12. Date the RFI was submitted
 13. Date Designer's response was received
 14. Identification of related DSI or Proposal Request, as appropriate

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013115 - PROJECT MANAGEMENT COMMUNICATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions, Bid Form, and other Division 1 Specification Sections apply to this Section.
- B. Division 1, Section 013300 - Submittals
- C. Division 1, Section 012600 – Contract Modification Procedures

1.2 SUMMARY

- A. Project Management Communications: The Contractor shall use the Internet web based project management communications tool, E-Builder® ASP software, and protocols included in that software during this project. The use of project management communications as herein described does not replace or change any contractual responsibilities of the participants.
 - 1. Project management communications is available through E-Builder® as provided by "e-Builder®" in the form and manner required by the Owner.
 - 2. The project communications database is on-line and fully functional. User registration, electronic and computer equipment, and Internet connections are the responsibility of each project participant. The sharing of user accounts is prohibited.
- B. Support: E-Builder® will provide on-going support through on-line help files.
- C. Copyrights and Ownership: Nothing in this specification or the subsequent communications supersedes the parties' obligations and rights for copyright or document ownership as established by the Contract Documents. The use of CAD files, processes or design information distributed in this system is intended only for the project specified herein.
- D. Purpose: The intent of using E-Builder® is to improve project work efforts by promoting timely initial communications and responses. Secondly, to reduce the number of paper documents while providing improved record keeping by creation of electronic document files
- E. Authorized Users: Access to the web site will be by individuals who are authorized users.
 - 1. Individuals shall complete the E-Builder New Company/User Request Form located at the following web site: <https://oa.mo.gov/facilities/vendor-links/contractor-forms>. Completed forms shall be emailed to the following email address: OA.FMDCE-BuilderSupport@oa.mo.gov.
 - 2. Authorized users will be contacted directly and assigned a temporary user password.
 - 3. Individuals shall be responsible for the proper use of their passwords and access to data as agents of the company in which they are employed.

- F. Administrative Users: Administrative users have access and control of user licenses and all posted items. DO NOT POST PRIVATE OR YOUR COMPANY CONFIDENTIAL ITEMS IN THE DATABASE! Improper or abusive language toward any party or repeated posting of items intended to deceive or disrupt the work of the project will not be tolerated and will result in deletion of the offensive items and revocation of user license at the sole discretion of the Administrative User(s).
- G. Communications: The use of fax, email and courier communication for this project is discouraged in favor of using E-Builder® to send messages. Communication functions are as follows:
1. Document Integrity and Revisions:
 - a. Documents, comments, drawings and other records posted to the system shall remain for the project record. The authorship time and date shall be recorded for each document submitted to the system. Submitting a new document or record with a unique ID, authorship, and time stamp shall be the method used to make modifications or corrections.
 - b. The system shall make it easy to identify revised or superseded documents and their predecessors.
 - c. Server or Client side software enhancements during the life of the project shall not alter or restrict the content of data published by the system. System upgrades shall not affect access to older documents or software.
 2. Document Security:
 - a. The system shall provide a method for communication of documents. Documents shall allow security group assignment to respect the contractual parties communication except for Administrative Users. DO NOT POST PRIVATE OR YOUR COMPANY CONFIDENTIAL ITEMS IN THE DATABASE!
 3. Document Integration:
 - a. Documents of various types shall be logically related to one another and discoverable. For example, requests for information, daily field reports, supplemental sketches and photographs shall be capable of reference as related records.
 4. Reporting:
 - a. The system shall be capable of generating reports for work in progress, and logs for each document type. Summary reports generated by the system shall be available for team members.
 5. Notifications and Distribution:
 - a. Document distribution to project members shall be accomplished both within the extranet system and via email as appropriate. Project document distribution to parties outside of the project communication system shall be accomplished by secure email of outgoing documents and attachments, readable by a standard email client.
 6. Required Document Types:
 - a. RFI, Request for Information.
 - b. Submittals, including record numbering by drawing and specification section.
 - c. Transmittals, including record of documents and materials delivered in hard copy.
 - d. Meeting Minutes.
 - e. Application for Payments (Draft or Pencil).
 - f. Review Comments.
 - g. Field Reports.
 - h. Construction Photographs.
 - i. Drawings.

- j. Supplemental Sketches.
 - k. Schedules.
 - l. Specifications.
 - m. Request for Proposals
 - n. Designer's Supplemental Instructions
 - o. Punch Lists
- H. Record Keeping: Except for paper documents, which require original signatures and large format documents (greater than 8½ x 11 inches), all other 8½ x 11 inches documents shall be submitted by transmission in electronic form to the E-Builder® web site by licensed users.
- a. The Owner and his representatives, the Designer and his consultants, and the Contractor and his Sub Contractors and suppliers at every tier shall respond to documents received in electronic form on the web site, and consider them as if received in paper document form.
 - b. The Owner and his representatives, the Designer and his consultants, and the Contractor and his Sub Contractors and suppliers at every tier reserves the right to and shall reply or respond by transmissions in electronic form on the web site to documents actually received in paper document form.
 - c. The Owner and his representatives, the Designer and his consultants, and the Contractor and his Sub Contractors and suppliers at every tier reserves the right to and shall copy any paper document into electronic form and make same available on the web site.
- I. Minimum Equipment and Internet Connection: In addition to other requirements specified in this Section, the Owner and his representatives, the Construction Manager and his representatives, the Architect and his consultants, and the Contractor and his sub-contractors and suppliers at every tier required to have a user license(s) shall be responsible for the following:
- 1. Providing suitable computer systems for each licensed user at the users normal work location¹ with high-speed Internet access, i.e. DSL, local cable company's Internet connection, or T1 connection.
 - 2. Each of the above referenced computer systems shall have the following minimum system² and software requirements:
 - a. Desktop configuration (Laptop configurations are similar and should be equal to or exceed desktop system.)
 - 1) Operating System: Windows XP or newer
 - 2) Internet Browser: Internet Explorer 6.01SP2+ (Recommend IE7.0+)
 - 3) Minimum Recommend Connection Speed: 256K or above
 - 4) Processor Speed: 1 Gigahertz and above
 - 5) RAM: 512 mb
 - 6) Operating system and software shall be properly licensed.
 - 7) Internet Explorer version 7 (current version is a free distribution for download). This specification is not intended to restrict the host server or client computers provided that industry standard HTTP clients may access the published content.

¹ The normal work location is the place where the user is assigned for more than one-half of his time working on this project.

² The minimum system herein will not be sufficient for many tasks and may not be able to process all documents and files stored in the E-Builder® Documents area.

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- 8) Adobe Acrobat Reader (current version is a free distribution for download).
- 9) Users should have the standard Microsoft Office Suite (current version must be purchased) or the equivalent.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable.)

END OF SECTION 013115

SECTION 013200 – SCHEDULE – BAR CHART

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes requirements for a Bar Chart Schedule for the project construction activities, schedule of submittals, and schedule for testing.

PART 2 - PRODUCTS – (Not Applicable)

PART 3 - EXECUTION

3.1 SUBMITTAL PROCEDURES

- A. The Contractor shall submit to the Designer, within ten (10) working days following the Notice to Proceed, a Progress Schedule including Schedule of Values showing the rate of progress the Contractor agrees to maintain and the order in which he proposed to carry out the various phases of Work. No payments shall be made to the Contractor until the Progress Schedule has been approved by the Owner.
 - 1. The Schedule of Values must have the following line items included with the value of the item as indicated below:
 - a. O&M's (Owner's Manual)
 - 1) \$1,000,000.00 (One million) and under – 2% of the total contract amount
 - 2) Over \$1,000,000.00 (One million) – 1% of the total contract amount
 - b. Close Out Documents
 - 1) \$1,000,000.00 (One million) and under – 2% of the total contract amount
 - 2) Over \$1,000,000.00 (One million) – 1% of the total contract amount
 - c. General Conditions
 - 1) No more than 10%
- B. The Contractor shall submit an updated Schedule for presentation at each Monthly Progress Meeting. The Schedule shall be updated by the Contractor as necessary to reflect the current Schedule and its relationship to the original Schedule. The updated Schedule shall reflect any changes in the logic, sequence, durations, or completion date.

Payments to the Contractor shall be suspended if the Progress Schedule is not adequately updated to reflect actual conditions.

- C. The Contractor shall submit Progress Schedules to Subcontractors to permit coordinating their Progress Schedules to the general construction Work. The Contractor shall coordinate preparation and processing of Schedules and reports with performance of other construction activities.

3.2 CONSTRUCTION PROGRESS SCHEDULE – BAR CHART SCHEDULE

- A. Bar-Chart Schedule: The Contractor shall prepare a comprehensive, fully developed, horizontal bar chart-type Contractor’s Construction Schedule. The Contractor for general construction shall prepare the Construction Schedule for the entire Project. The Schedule shall show the percentage of work to be completed at any time, anticipated monthly payments by Owner, as well as significant dates (such as completion of salvaging, transportation, restoration, etc.) which shall serve as check points to determine compliance with the approved Schedule. The Schedule shall also include an activity for the number of “bad” weather days specified in Section 012100 – Allowances.

1. The Contractor shall provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week.
 - a. If practical, use the same Schedule of Values breakdown for schedule time bars.
2. The Contractor shall provide a base activity time bar showing duration for each construction activity. Each bar is to indicate start and completion dates for the activity. The Contractor is to place a contrasting bar below each original schedule activity time for indicating actual progress and planned remaining duration for the activity.
3. The Contractor shall prepare the Schedule on a minimal number of separate sheets to readily show the data for the entire construction period.
4. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on schedule with other construction activities. Include minor elements involved in the overall sequence of the Work. Show each activity in proper sequence. Indicate graphically the sequences necessary for completion of related portions of the Work.
5. Coordinate the Contractor’s Construction Schedule with the Schedule of Values, list of subcontracts, Submittal Schedule, progress reports, payment requests, Historic Treatment Plan, and other required schedules and reports.
6. Indicate the Intent to Award and the Contract Substantial Completion dates on the schedule.

- B. Phasing: Provide notations on the schedule to show how the sequence of the Work is affected by the following:

1. Coordination with existing construction
2. Limitations of continued occupancies
3. Un-interruptible services

4. Site restrictions
 5. Provisions for future construction
 6. Seasonal variations
 7. Environmental control
- C. Work Stages: Use crosshatched bars to indicate important stages of construction for each major portion of the Work. Such stages include, but are not necessarily limited to, the following:
1. Subcontract awards
 2. Submittals
 3. Purchases
 4. Mockups
 5. Salvaging Wood & Glass Vestibule
 6. Bronze Door Removal
 7. Bronze Door Transportation
 8. Bronze Door Disassembly
 9. Bronze Door Repair
 10. Bronze Door Restoration
 11. Fabrication of Mechanical Parts
 12. Bronze Door Installation
 13. Bronze Door Cleaning & Refinishing
 14. Sample testing
 15. Deliveries
 16. Testing
 17. Adjusting
 18. Curing
 19. Startup and placement into final use and operation

3.3 SCHEDULE OF SUBMITTALS

- A. Upon acceptance of the Construction Progress Schedule, prepare and submit a complete schedule of submittals. Coordinate the submittal schedule with Section 013300 SUBMITTALS, the approved Construction Progress Schedule, list of subcontracts, Schedule of Values and the list of products.
- B. Prepare the schedule in chronological order. Provide the following information
1. Scheduled date for the first submittal
 2. Related Section number
 3. Submittal category

4. Name of the Subcontractor
 5. Description of the part of the Work covered
 6. Scheduled date for resubmittal
 7. Scheduled date for the Designer's final release or approval
- C. Distribution: Following the Designer's response to the initial submittal schedule, print and distribute copies to the Designer, Owner, subcontractors, and other parties required to comply with submittal dates indicated.
1. Post copies on e-builder.
 2. When revisions are made, distribute to the same parties and post in the same location. Delete parties from distribution when they have completed their assigned part of the Work and are no longer involved in construction activities.
- D. Schedule Updating: Revise the schedule after each meeting or other activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

3.4 SCHEDULE OF INSPECTIONS AND TESTS

- A. Prepare a schedule of inspections, tests, and similar services required by the Contract Documents. Submit the schedule with (15) days of the date established for commencement of the Contract Work. The Contractor is to notify the testing agency at least (5) working days in advance of the required tests unless otherwise specified.
- B. Form: This schedule shall be in tabular form and shall include, but not be limited to, the following:
1. Specification Section number
 2. Description of the test
 3. Identification of applicable standards
 4. Identification of test methods
 5. Number of tests required
 6. Time schedule or time span for tests
 7. Entity responsible for performing tests
 8. Requirements for taking samples
 9. Unique characteristics of each service
- C. Distribution: Distribute the schedule to the Owner, Architect, and each party involved in performance of portions of the Work where inspections and tests are required.

END OF SECTION 013200

SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs.
 - 2. Concealed Work photographs.
 - 3. Periodic construction photographs.
 - 4. Final Completion construction photographs.
 - 5. Preconstruction video recordings.
 - 6. Periodic construction video recordings.
 - 7. Construction webcam.
- B. Related Requirements:
 - 1. Section 024119 "Selective Demolition" for photographic documentation before selective demolition operations commence.

1.3 INFORMATIONAL SUBMITTALS

- A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph and video recording. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.
- B. Digital Photographs: Submit image files within three days of taking photographs.
 - 1. Submit photos on E-BUILDER, the State of Missouri's project management web portal. Include copy of key plan indicating each photograph's location and direction.
 - 2. Identification: Provide the following information with each image description in the file name, in the metadata tag, and/or in a description field in E-BUILDER:
 - a. Name of Project.
 - b. Name and contact information for photographer.
 - c. Name of Architect and Specialty Door Contractor.
 - d. Name of General Contractor and applicable Sub-Contractor.
 - e. Date photograph was taken.
 - f. Description of location, vantage point, and direction.
 - g. Unique sequential identifier keyed to accompanying key plan.

- C. Video Recordings: Submit video recordings within [seven] days of recording.
 - 1. Submit video recordings on E-BUILDER, the State of Missouri's project management web portal . Include copy of key plan indicating each video's location and direction.
 - 2. Identification: With each submittal, provide the following information in the file name, in the metadata tag, and/or in a description field in E-BUILDER:
 - a. Name of Project.
 - b. Name and address of photographer.
 - c. Name of Architect and Specialty Door Contractor.
 - d. Name of General Contractor and applicable Sub-Contractor.
 - e. Date video recording was recorded.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
- D. Time-Lapse Video: Provide real time / time-lapse sequence video of the doors being removed from the opening, the fabrication facility where the doors are being transported, and the doors being reinstalled into the openings.

1.4 QUALITY ASSURANCE

- A. Photographer Qualifications: An individual who has been regularly engaged as a professional photographer of construction projects for not less than three years.
- B. Construction Webcam Service Provider: A firm specializing in providing photographic equipment, web-based software, and related services for construction projects, with a record of providing satisfactory services similar to those required for Project.

1.5 FORMATS AND MEDIA

- A. Digital Photographs: Provide color images in JPG format, produced by a digital camera with minimum sensor size of 12 megapixels, and at an image resolution of not less than 3200 x 2400 pixels. Use flash in low light levels or backlit conditions.
- B. Digital Video Recordings: Provide high-resolution, digital video in .MP4, .HEVC, .MOV or other common high resolution format, produced by a digital camera with minimum sensor resolution of 12 megapixels and capable of recording in full high-definition mode with vibration and motion reduction technology. Provide supplemental lighting in low light levels or backlit conditions.
- C. Digital Images: Submit digital media as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

1.6 CONSTRUCTION PHOTOGRAPHS

- A. Photographer: Engage a qualified photographer to take construction photographs.
- B. General: Take photographs with maximum depth of field and in focus.

1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- C. Preconstruction Photographs: Before commencement of the Work, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Architect.
 1. Take 20 photographs to show existing conditions adjacent to monumental bronze doors before starting the Work.
 2. Take 20 photographs of existing conditions of each bronze door, to accurately record physical conditions at start of construction.
 3. Take additional photographs as required to record settlement or cracking of adjacent structures, flooring, or other locations.
- D. Periodic Construction Photographs: Take 20 photographs weekly coinciding with the cutoff date associated with the upcoming Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.
- E. Time-Lapse Sequence Construction Photographs: Take 20 photographs as indicated, to show status of construction and progress since last photographs were taken.
 1. Frequency: Take photographs weekly, on the same day each week.
- F. Final Completion Construction Photographs: Take 100 photographs after date of Substantial Completion for submission as Project Record Documents. Architect will inform photographer of desired vantage points.
- G. Additional Photographs: Architect may request photographs in addition to periodic photographs specified. Additional photographs will be paid for by Change Order and are not included in the Contract Sum.
 1. Three days' notice will be given, where feasible.
 2. In emergency situations, take additional photographs within 24 hours of request.
 3. Circumstances that could require additional photographs include, but are not limited to, the following:
 - a. Special events planned at Project site.
 - b. Immediate follow-up when on-site events result in construction damage or losses.
 - c. Photographs shall be taken at fabrication locations away from Project site. These photographs are not subject to unit prices or unit-cost allowances.
 - d. Substantial Completion of a major phase or component of the Work.
 - e. Extra record photographs at time of final acceptance.
 - f. Owner's request for special publicity photographs.

1.7 CONSTRUCTION VIDEO RECORDINGS

- A. Video Recording Photographer: Engage a qualified videographer to record construction video recordings.
- B. Narration: Describe scenes on video recording by audio narration during filming or dubbing audio narration after video recording is recorded. Include description of items being viewed,

recent events, and planned activities. At each change in location, describe vantage point, location, direction (by compass point), and elevation or story of construction.

1. Confirm date and time at beginning and end of recording.
 2. Begin each video recording with name of Project, Contractor's name, videographer's name, and Project location.
- C. Preconstruction Video Recording: Before starting demolition record video recording of Project site and surrounding properties from different vantage points, as directed by Architect.

1.8 CONSTRUCTION WEBCAM

- A. Webcam: Provide one fixed-location camera(s) with weatherproof housing, mounted to provide unobstructed view of construction site from location approved by Architect, and one fixed location camera(s) within the fabrication facility where the doors are to be housed, with the following characteristics:
1. Remotely controllable view with mouse-click user navigation for horizontal pan, vertical tilt, and optical zoom of 500 percent minimum.
 2. Capable of producing minimum 12 megapixel images.
 3. Provide power supply, active high-speed data connection to service provider's network, and static public IP address for each camera.
- B. Live Streaming Images: Provide web-accessible image of current site image, updated at 15 - minute intervals when construction is underway.
- C. Web-Based Interface: Provide online interface to allow viewing of each high-definition digital still image captured and stored during construction, from the Internet.
1. Access Control: Provide password-protected access for Project team administered by Contractor, providing current image access and archival image access by date and time, with images downloadable to viewer's device.
 2. Software: Provide responsive software interface for use on computer, tablet, and mobile screens with accompanying iPhone/iPad app and Android apps.
 3. Storage: Maintain images on the website for reference during entire construction period, and for not less than 30 days after Final Completion. Provide sufficient memory on remote server to store all Project images.
 4. Online Interface: Provide website interface with Project and client information and logos, calendar-based navigation interface for selecting images, and pan and zoom capability within high-definition images.
 5. Forward and Reverse: Provide capability to browse through images, moving forward and backward in time by individual image and by day.
 6. Slideshow: Provide capability to automatically display current images from sites when there are three or more cameras used.
 7. Time-Lapse: Provide capability for online display of project time-lapse.
 8. Dashboard: Provide capability to view thumbnails of all cameras on one screen.
 9. Weather: Provide corresponding weather data for each image captured.

- D. Maintain cameras and web-based access in good working order, according to web-based construction photographic documentation service provider's written instructions until Final Completion. Provide for service of cameras and related networking devices and software.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013233

SECTION 013300 – SUBMITTALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions, Bid Form, and other Division 1 Specification Sections apply to this Section.
- B. Division 1, Section 013115 “Project Management Communications” for administrative requirements for communications.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submittals required for performance of the Work including the following:
 - 1. Shop Drawings
 - 2. Product Data
 - 3. Samples
 - 4. Quality Assurance Submittals
 - 5. Construction Photographs
 - 6. Operating and Maintenance Manuals
 - 7. Warranties
- B. Administrative Submittals: Refer to General and Supplementary Conditions other applicable Division 1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to, the following:
 - 1. Construction Progress Schedule including Schedule of Values
 - 2. Performance and Payment Bonds
 - 3. Insurance Certificates
 - 4. Applications for Payment
 - 5. Certified Payroll Reports
 - 6. Partial and Final Receipt of Payment and Release Forms
 - 7. Affidavit – Compliance with Prevailing Wage Law
 - 8. Record Drawings
 - 9. Notifications, Permits, etc.
- C. The Contractor is obliged and responsible to check all shop drawings and schedules to assure compliance with contract plans and specifications. The Contractor is responsible for the content of the shop drawings and coordination with other contract work. Shop drawings and schedules shall indicate, in detail, all parts of an Item or Work including erection and setting instructions and integration with the Work of other trades.

- D. The Contractor shall at all times make a copy, of all approved submittals, available on site to the Construction Representative.

1.3 SUBMITTAL PROCEDURES

- A. The Contractor shall comply with the General and Supplementary Conditions and other applicable sections of the Contract Documents. The Contractor shall submit, with such promptness as to cause no delay in his work or in that of any other contractors, all required submittals indicated in Part 3.1 of this section and elsewhere in the Contract Documents. Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - a. The Designer reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.
- B. Each drawing and/or series of drawings submitted must be accompanied by a letter of transmittal giving a list of the titles and numbers of the drawings. Each series shall be numbered consecutively for ready reference and each drawing shall be marked with the following information:
 - 1. Date of Submission
 - 2. Name of Project
 - 3. Location
 - 4. Section Number of Specification
 - 5. State Project Number
 - 6. Name of Submitting Contractor
 - 7. Name of Subcontractor
 - 8. Indicate if Item is submitted as specified or as a substitution

1.4 SHOP DRAWINGS

- A. Comply with the General Conditions, Article 3.2.
- B. The Contractor shall submit newly prepared information drawn accurately to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing.
- C. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates, and similar drawings including the following information:

1. Dimensions
2. Identification of products and materials included by sheet and detail number
3. Compliance with specified standards
4. Notation of coordination requirements
5. Notation of dimensions established by field measurement
6. Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8½”x11” but no larger than 36”x48”.

1.5 PRODUCT DATA

- A. The Contractor shall comply with the General Conditions, Article 3.2.
- B. The Contractor shall collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information, such as manufacturer’s installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, and performance curves.
 1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information including the following information:
 - a. Manufacturer’s printed recommendations
 - b. Compliance with Trade Association standards
 - c. Compliance with recognized Testing Agency standards
 - d. Application of Testing Agency labels and seals
 - e. Notation of dimensions verified by field measurement
 - f. Notation of coordination requirements
 2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.

1.6 SAMPLES

- A. The Contractor shall comply with the General Conditions, Article 3.2.
- B. The Contractor shall submit full-size, fully fabricated samples, cured and finished as specified, and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.
 1. The Contractor shall mount or display samples in the manner to facilitate review of qualities indicated. Prepare samples to match the Designer’s sample including the following:
 - a. Specification Section number and reference
 - b. Generic description of the Sample

- c. Sample source
 - d. Product name or name of the Manufacturer
 - e. Compliance with recognized standards
 - f. Availability and delivery time
 - g. Types of mechanical assemblies and hardware
2. The Contractor shall submit samples for review of size, kind, color, pattern, and texture. Submit samples for a final check of these characteristics with other elements and a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
- a. Where variation in color, pattern, texture, or other characteristic is inherent in the material or product represented, submit at least three (3) multiple units that show approximate limits of the variations.
 - b. Refer to other Specification Sections for requirements for samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
 - c. Refer to other Sections for samples to be returned to the Contractor for incorporation in the Work. Such samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of sample submittals.
 - d. Samples not incorporated into the Work, or otherwise designated as the Owner's property, are the property of the Contractor and shall be removed from the site prior to Substantial Completion.
3. Field samples are full-size examples erected onsite to illustrate finishes, coatings, mechanical assemblies, or finish materials and to establish the Project standard.
- a. The Contractor shall comply with submittal requirements to the fullest extent possible. The Contractor shall process transmittal forms to provide a record of activity.

1.7 QUALITY ASSURANCE DOCUMENTS

- A. The Contractor shall comply with the General Conditions, Article 3.2
- B. The Contractor shall submit quality control submittals including design data, certifications, manufacturer's instructions, manufacturer's field reports, and other quality-control submittals as required under other Sections of the Specifications.
- C. Certifications: Where other Sections of the Specifications require certification that a product, material, or installation complies with specified requirements, submit a notarized certification from the Manufacturer certifying compliance with specified requirements.
 1. Signature: Certification shall be signed by an officer of the Manufacturer or other individual authorized to contractually bind the Company.

D. Inspection and Test Reports: The Contractor shall submit the required inspection and test reports from independent testing agencies as specified in this Section and in other Sections of the Contract Documents.

E. Construction Photographs: Refer to 01 3233 – Photographic Documentation.

1.8 OPERATING AND MAINTENANCE MANUALS AND WARRANTIES

A. The Contractor shall submit all required manufacturer’s operating instructions, maintenance/service manuals, and warranties in accordance with the General Conditions, Article 3.5, and Supplementary Conditions along with this and other Sections of the Contract Documents.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 REQUIRED SUBMITTALS

A. Contractor shall submit the following information for materials and equipment to be provided under this contract. All submittals shall be uploaded to e-builder. Physical submittals shall be photographed and uploaded to e-builder as well as mailed to Designer if applicable.

SPEC SECTION	TITLE	CATEGORY
013200	Schedules	Construction Schedule
013200	Schedules	Schedule of Values
013200	Schedules	List of Subcontractors
013200	Schedules	Major Material Suppliers
013233	Photographic Documentation	Digital Photography/Videography
013591	Historic Treatment Plan	Historic Treatment Plan
014339	Mockups	Mock up
040342	Historic Stone Masonry Repair	Product Data
050371	Historic Decorative Metal Cleaning	Test Report
050371	Historic Decorative Metal Cleaning	Mock up
050371	Historic Decorative Metal Cleaning	Product Data
050373	Historic Decorative Metal Refinishing	Product Data
050373	Historic Decorative Metal Refinishing	Mock up
050374	Historic Decorative Metal Replication	Mock up
050374	Historic Decorative Metal Replication	Product Data
079200	Joint Sealants	Product Data
080311-01	Historic Treatment of Bronze Doors - Pocket Doors	Operation / Maintenance Manual
080311-01	Historic Treatment of Bronze Doors - Bi-fold Doors	Operation / Maintenance Manual

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June 9, 2023

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Missouri Capitol Bronze Doors

080311-03	Historic Treatment of Bronze Doors - Mechanical Parts	Product Data
080311-03	Historic Treatment of Bronze Doors - Mechanical Parts	As-builts
080311-03	Historic Treatment of Bronze Doors - Mechanical Parts	Warranty
087100	Door Hardware	Product Data
087100	Door Hardware	Warranty
281000	Access Control	Product Data

END OF SECTION 013300

SECTION 013513.10 - SITE SECURITY AND HEALTH REQUIREMENTS (OA)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUBMITTALS

- A. List of required submittals:
 - 1. Materials Safety Data Sheets for all hazardous materials to be brought onsite.
 - 2. Schedule of proposed shutdowns, if applicable.
 - 3. A list of the names of all employees who will submit fingerprints for a background check, and the signed privacy documents identified below for each employee.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 ACCESS TO THE SITE

- A. The Contractor shall arrange with Facility Representatives to establish procedures for the controlled entry of workers and materials into the work areas at the Facility.
- B. The Contractor shall establish regular working hours with Facility Representatives. The Contractor must report changes in working hours or overtime to Facility Representatives and obtain approval twenty-four (24) hours ahead of time. The Contractor shall report emergency overtime to Facility Representatives as soon as it is evident that overtime is needed. The Contractor must obtain approval from Facility Representatives for all work performed after dark.
- C. The Contractor shall provide the name and phone number of the Contractor's employee or agent who is in charge onsite; this individual must be able to be contacted in case of emergency. The Contractor must be able to furnish names and address of all employees upon request.
- D. All construction personnel shall visibly display issued identification cards.

3.2 FIRE PROTECTION, SAFETY, AND HEALTH CONTROLS

- A. The Contractor shall take all necessary precautions to guard against and eliminate possible fire hazards.
 - 1. Onsite burning is prohibited.
 - 2. The Contractor shall store all flammable or hazardous materials in proper containers

- located outside the buildings or offsite, if possible.
3. The Contractor shall provide and maintain, in good order, during construction fire extinguishers as required by the National Fire Protection Association. In areas of flammable liquids, asphalt, or electrical hazards, 15-pound carbon dioxide or 20-pound dry chemical extinguishers shall be provided.
- B. The Contractor shall not obstruct streets or walks without permission from the Owner's Construction Representative and Facility Representatives.
 - C. The Contractor's personnel shall not exceed the speed limit of 15 mph while at the Facility unless otherwise posted.
 - D. The Contractor shall take all necessary, reasonable measures to reduce air and water pollution by any material or equipment used during construction. The Contractor shall keep volatile wastes in covered containers, and shall not dispose of volatile wastes or oils in storm or sanitary drains.
 - E. The Contractor shall keep the project site neat, orderly, and in a safe condition at all times. The Contractor shall immediately remove all hazardous waste, and shall not allow rubbish to accumulate. The Contractor shall provide onsite containers for collection of rubbish and shall dispose of it at frequent intervals during the progress of the Work.
 - F. Fire exits, alarm systems, and sprinkler systems shall remain fully operational at all times, unless written approval is received from the Owner's Construction Representative and the appropriate Facility Representative at least twenty-four (24) hours in advance. The Contractor shall submit a written time schedule for any proposed shutdowns.
 - G. For all hazardous materials brought onsite, Material Safety Data Sheets shall be on site and readily available upon request at least a day before delivery.
 - H. Alcoholic beverages or illegal substances shall not be brought upon the Facility premises. The Contractor's workers shall not be under the influence of any intoxicating substances while on the Facility premises.

3.3 SECURITY CLEARANCES AND RESTRICTIONS

- A. **FMDC CONTRACTOR BACKGROUND AND ID BADGE PROCESS**
 1. All employees of an OA/FMDC contractor (or subcontractor performing work under an OA/FMDC contract) are required to submit a fingerprint check through the Missouri State Highway Patrol (MSHP) and the FBI enabling OA/FMDC to obtain state and national criminal background checks on the employees, unless stated otherwise in the Contractor's contract.
 2. FMDC reserves the right to prohibit any employee of the Contractor from performing work in or on the premises of any facility owned, operated, or utilized by the State of Missouri for any reason.
 3. The Contractor shall ensure all of its employees submit fingerprints to the Missouri State Highway Patrol and pay for the cost of such background checks. The Contractor shall submit to FMDC via email to FMDCSecurity@oa.mo.gov a list of the names of the Contractor's employees who will be fingerprinted and a signed OA/FMDC Authorization

for Release of Information Confidentiality Oath for each employee. All employees of the Contractor approved by FMDC to work at a State facility must obtain a contractor ID badge from FMDC prior to beginning work on-site, unless the Director of FMDC, at the Director's discretion, waives the requirement for a contractor ID badge. The Contractor and its employees must comply with the process for background checks and contractor ID badges found on FMDC's website at: <https://oa.mo.gov/facilities/facilities-operations/security-information/fmdc-contractor-background-and-id-badge>

4. Fingerprints and Authorization for Release of Information Confidentiality Oath form are valid for one (1) year and must be renewed annually. Changing or adding locations may result in additional required documentation. Certain employees may be required to be fingerprinted more frequently. OA/FMDC reserves the right to request additional background checks at any time for any reason.
5. The Contractor shall notify FMDC via email to FMDCSecurity@oa.mo.gov within 48 hours of anyone severing employment with their company.

3.4 DISRUPTION OF UTILITIES

- A. The Contractor shall give a minimum of seventy-two (72) hours written notice to the Construction Representative and the Facility Representative before disconnecting electric, gas, water, fire protection, or sewer service to any building.
- B. The Contractor shall give a minimum of seventy-two (72) hours written notice to the Construction Representative and Facility Representative before closing any access drives, and shall make temporary access available, if possible. The Contractor shall not obstruct streets, walks, or parking.

3.5 PROTECTION OF PERSONS AND PROPERTY

A. SAFETY PRECAUTIONS AND PROGRAMS

1. The Contractor shall at all times conduct operations under this Contract in a manner to avoid the risk of bodily harm to persons or risk of damage to any property. The Contractor shall promptly take precautions which are necessary and adequate against conditions created during the progress of the Contractor's activities hereunder which involve a risk of bodily harm to persons or a risk of damage to property. The Contractor shall continuously inspect Work, materials, and equipment to discover and determine any such conditions and shall be solely responsible for discovery, determination, and correction of any such conditions. The Contractor shall comply with applicable safety laws, standards, codes, and regulations in the jurisdiction where the Work is being performed, specifically, but without limiting the generality of the foregoing, with rules regulations, and standards adopted pursuant to the Williams-Steiger Occupational Safety and Health Act of 1970 and applicable amendments.
2. All contractors, subcontractors and workers on this project are subject to the Construction Safety Training provisions 292.675 RSMo.
3. In the event the Contractor encounters on the site, material reasonably believed to be asbestos, polychlorinated biphenyl (PCB), lead, mercury, or other material known to be hazardous, which has not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the Owner's Representative and the Architect in writing. The Work in the affected area shall not thereafter be resumed except

by written agreement of the Owner's Representative and Contractor if in fact the material is asbestos or polychlorinated biphenyl (PCB) and has not been rendered harmless. The Work in the affected area shall be resumed in the absence of asbestos or polychlorinated biphenyl (PCB), or when it has been rendered harmless by written agreement of the Owner's Representative and the Contractor. "Rendered Harmless" shall mean that levels of such materials are less than any applicable exposure standards, including but limited to OSHA regulations.

B. SAFETY OF PERSONS AND PROPERTY

1. The Contractor shall take reasonable precautions for safety of, and shall provide protection to prevent damage, injury, or loss to:
 - a. clients, staff, the public, construction personnel, and other persons who may be affected thereby;
 - b. the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor or the Contractor's Subcontractors of any tier; and
 - c. other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.
2. The Contractor shall give notices and comply with applicable laws, standards, codes, ordinances, rules, regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury, or loss.
3. The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, safeguards for safety and protection, including, but not limited to, posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying owners and users of adjacent sites and utilities.
4. When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise the highest degree of care and carry on such activities under supervision of properly qualified personnel.
5. The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in this Section caused in whole or in part by the Contractor, a Subcontractor of any tier, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable, and for which the Contractor is responsible under this Section, except damage or loss attributable solely to acts or omissions of Owner or the Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's other obligations stated elsewhere in the Contract.
6. The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents, and the maintaining, enforcing and supervising of safety precautions and programs. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner's Representative and Architect. The Contractor shall hold regularly scheduled safety meetings to instruct Contractor personnel on safety practices, accident avoidance and prevention, and the Project Safety Program. The Contractor shall furnish safety equipment and enforce the use of such equipment by its employees and its subcontractors

- of any tier.
7. The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger its safety.
 8. The Contractor shall promptly report in writing to the Owner all accidents arising out of or in connection with the Work which cause death, lost time injury, personal injury, or property damage, giving full details and statements of any witnesses. In addition, if death, serious personal injuries, or serious property damages are caused, the accident shall be reported immediately.
 9. The Contractor shall promptly notify in writing to the Owner of any claims for injury or damage to personal property related to the work, either by or against the Contractor.
 10. The Owner assumes no responsibility or liability for the physical condition or safety of the Work site or any improvements located on the Work site. The Contractor shall be solely responsible for providing a safe place for the performance of the Work. The Owner shall not be required to make any adjustment in either the Contract Sum or Contract Time concerning any failure by the Contractor or any Subcontractor to comply with the requirements of this Paragraph.
 11. In no event shall the Owner have control over, charge of, or any responsibility for construction means, methods, techniques, sequences or procedures or for safety precautions and programs in connection with the Work, notwithstanding any of the rights and authority granted the Owner in the Contract Documents.
 12. The Contractor shall maintain at his own cost and expense, adequate, safe and sufficient walkways, platforms, scaffolds, ladders, hoists and all necessary, proper, and adequate equipment, apparatus, and appliances useful in carrying on the Work and which are necessary to make the place of Work safe and free from avoidable danger for clients, staff, the public and construction personnel, and as may be required by safety provisions of applicable laws, ordinances, rules regulations and building and construction codes.

END OF SECTION 013513.10

SECTION 013591 - HISTORIC TREATMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

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

1.2 DEFINITIONS

- A. Consolidate: To strengthen loose or deteriorated materials in place.
- B. Design Reference Sample: A sample that represents Architect's prebid selection of work to be matched; it may be existing work or work specially produced for Project.
- C. Dismantle: To disassemble or detach a historic item from a surface, or a nonhistoric item from a historic surface, using gentle methods and equipment to prevent damage to historic items and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- D. Historic: Spaces, areas, rooms, surfaces, materials, finishes, doors, door components, and overall appearance that are important to the successful preservation and restoration as determined by Architect. Designated historic doors, door components, and surfaces are indicated on Drawings.
 - 1. Monumental Center Bi-fold Doors: Doors of greatest architectural importance, integrity, and visibility; to be preserved and restored to the original, circa 1918, design, functionality, and finish as indicated on Drawings.
 - 2. West and East Pocket Doors: Doors of significant architectural importance, integrity, and visibility; to be preserved and restored consistent with the remaining historic fabric and to the extent indicated on Drawings.
 - 3. Vestibules: Areas of slight architectural importance, integrity, and visibility; to leave any remaining original fabric untouched or if disassembled rebuild to original configuration insofar as is consistent with accommodating modern uses for the building as indicated on Drawings.
- E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Architect.
- F. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.
- G. Reinstall: To protect removed or dismantled item, repair and clean it as indicated for reuse, and reinstall it in original position, or where indicated.
- H. Remove: To take down or detach a non-historic item located within a historic space, area, or room, using methods and equipment to prevent damage to historic items and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

- I. Repair: To correct damage and defects, retaining existing materials, features, and finishes while employing as little new material as possible. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.
- J. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.
- K. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.
- L. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.
- M. Restore: To consolidate, replicate, reproduce, repair, and refinish as required to achieve the indicated results.
- N. Retain: To keep an element or detail secure and intact.
- O. Reversible: New construction work, treatments, or processes that can be removed or undone in the future without damaging historic materials unless otherwise indicated.
- P. Salvage: To protect removed or dismantled items and deliver them to Owner ready for reuse.
- Q. Stabilize: To provide structural reinforcement of unsafe or deteriorated items while maintaining the essential form as it exists at present; also, to reestablish a weather-resistant enclosure.
- R. Strip: To remove existing finish down to base material unless otherwise indicated.

1.3 COORDINATION

- A. Historic Treatment Sub-schedule: A construction schedule coordinating the sequencing and scheduling of historic treatment work for entire Project, including each activity to be performed in historic spaces, areas, and rooms and on doors and door components, and on historic surfaces; and based on Contractor's Construction Schedule. Secure time commitments for performing critical construction activities from separate entities responsible for historic treatment work.
 - 1. Schedule construction operations in sequence required to obtain best historic treatment results.
 - 2. Coordinate sequence of historic treatment work activities to accommodate the following:
 - a. Owner's continuing occupancy of portions of existing building.
 - b. Other known work in progress.
 - c. Tests and inspections.
 - 3. Detail sequence of historic treatment work, with start and end dates.
 - 4. Use of elevator and stairs.
 - 5. Equipment Data: List gross loaded weight, axle-load distribution, and wheel-base dimension data for mobile and heavy equipment proposed for use. Do not use such equipment without certification from Contractor's professional engineer that the structure can support the imposed loadings without damage.

- B. Pedestrian and Vehicular Circulation: Coordinate historic treatment work with circulation patterns within Project building and site. Some work is near circulation patterns and transportation of heavy equipment and the monumental bronze doors themselves should be carefully coordinated with schedules of the legislative session and work of other construction contracts. Circulation patterns cannot be closed off entirely, and in places can be only temporarily redirected around small areas of work. Plan and execute the Work accordingly.

1.4 PROJECT MEETINGS FOR HISTORIC TREATMENT

- A. Preliminary Historic Treatment Conference: Before starting historic treatment work, Architect will conduct conference at Project Site located at 201 W Capitol Ave, Jefferson City, MO 65101.
 - 1. Attendees: In addition to representatives of Owner, Architect, and Contractor, Specialty Monumental Bronze Door Contractor, and other subcontractors whose work interfaces with or affects historic treatment shall be represented at the meeting.
 - 2. Agenda: Discuss items of significance that could affect progress of historic treatment work, including review of the following:
 - a. Historic Treatment Sub-schedule: Discuss and finalize; verify availability of materials, historic treatment specialists' personnel, equipment, and facilities needed to make progress and avoid delays.
 - b. Fire-prevention plan.
 - c. Governing regulations.
 - d. Areas where existing construction is to remain and the required protection.
 - e. Hauling routes.
 - f. Sequence of historic treatment work operations.
 - g. Storage, protection, and accounting for salvaged and specially fabricated items.
 - h. Existing conditions, staging, and structural loading limitations of areas where materials are stored.
 - i. Structural loading limitations of areas beneath/adjacent to the Monumental Bi-Fold Bronze Doors that can allow for bearing for the doors during cutting, rigging, transporting, and reinstalling.
 - j. Plan for bracing, rigging, protecting, craning, and loading the Monumental Bi-Fold Bronze Doors to be transported.
 - k. Qualifications of personnel assigned to historic treatment work and assigned duties.
 - l. Requirements for extent and quality of work, tolerances, and required clearances.
 - m. Methods and procedures related to historic treatments, including product manufacturers' written instructions and precautions regarding historic treatment procedures and their effects on materials, components, and vegetation.
 - n. Embedded work such as flashings and lintels, special details, collection of wastes, protection of occupants and the public, and condition of other construction that affect the Work or will affect the work.
 - o. Procedures for disassembly, marking for salvage, storage, and reassembly of the wood and glass vestibule.
 - p. Means and methods of construction in the restoration of the monumental bi-fold doors and west & east pocket doors, including disassembly of old hardware, newly fabricated components & mechanical assemblies, repair of inner metal framework, replacement hardware, and all other restoration of door components as required.

3. Reporting: Architect will record conference results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from conference.
- B. Coordination Meetings: Conduct specifically for historic treatment work at monthly intervals. Coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
1. Attendees: In addition to representatives of Owner, Architect, and Contractor, each historic treatment specialist, supplier, installer, and other entity concerned with progress or involved in planning, coordination, or performance of historic treatment work activities shall be represented at these meetings. All participants at conference shall be familiar with Project and authorized to conclude matters relating to historic treatment work.
 2. Agenda: Review and correct or approve minutes of previous coordination meeting. Review other items of significance that could affect progress of historic treatment work. Include topics for discussion as appropriate to status of Project.
 - a. Historic Treatment Sub-schedule: Review progress since last coordination meeting. Determine whether each schedule item is on time, ahead of schedule, or behind schedule. Determine how construction behind schedule will be expedited with retention of quality; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities are completed within the Contract Time.
 - b. Schedule Updating: Revise Contractor's Historic Treatment Sub-schedule after each coordination meeting where revisions to schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each entity present, including review items listed in the "Preliminary Historic Treatment Conference" Paragraph in this article and the following:
 - 1) Interface requirements of historic treatment work with other Project Work.
 - 2) Status of submittals for historic treatment work.
 - 3) Access to historic treatment work.
 - 4) Effectiveness of fire-prevention plan.
 - 5) Quality and work standards of historic treatment work.
 - 6) Change Orders for historic treatment work.
 3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

1.5 MATERIALS OWNERSHIP

- A. Historic items, relics, and similar objects including, but not limited to, door components, hardware, locking assemblies, mechanical parts, and surrounding components being replaced, as well as wood and glass vestibule to be disassembled and reassembled, and other items of interest or value to Owner that may be encountered or uncovered during the Work, regardless of whether they were previously documented, remain Owner's property.
1. Dismantle and salvage each item or object and protect it from damage, then promptly deliver it to Owner, either FMDC or the maintenance shop, where directed. Address is 201 W Capitol Ave, Jefferson City, MO 65101.

2. Coordinate with Specialty Monumental Bronze Door Contractor who will establish special procedures for dismantling and salvaging.

1.6 INFORMATIONAL SUBMITTALS

- A. Historic Treatment Sub-schedule:
 1. Submit historic treatment sub-schedule within 10 working days of date established for commencement of historic treatment work.
- B. Preconstruction Documentation: Show preexisting conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by Contractor's historic treatment operations.
- C. Historic Treatment Program: Submit 30 days before work begins.
- D. Fire-Prevention Plan: Submit 30 days before work begins.

1.7 QUALITY ASSURANCE

- A. Specialty Monumental Bronze Door Contractor: An experienced firm regularly engaged in historic bronze door restoration similar in nature, materials, design, and extent to the work as specified in each Section and that has completed a minimum of five recent projects with a record of successful in-service performance that demonstrates the firm's qualifications to perform this work.
 1. Field Supervisor Qualifications: Full-time supervisors experienced in historic bronze door restoration work similar in nature, material, design, and extent to that indicated for this Project. Supervisors shall be on site when historic treatment work begins and during its progress. Supervisors shall not be changed during Project except for causes beyond control of the specialist firm.
- B. Historic Treatment Program: Prepare a written plan for historic treatment for whole Project, including each phase or process and protection of surrounding materials during operations. Describe in detail the materials, methods, and equipment to be used for each phase of work. Show compliance with indicated methods and procedures specified in this and other Sections. Coordinate this whole-Project historic treatment program with specific requirements of programs required in other historic treatment Sections.
 1. Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.
 2. Debris Hauling: Include plans clearly marked to show debris hauling routes, turning radii, and locations and details of temporary protective barriers.
- C. Fire-Prevention Plan: Prepare a written plan for preventing fires during the Work, including placement of fire extinguishers, fire blankets, rag buckets, and other fire-control devices during each phase or process. Coordinate plan with Owner's fire-protection equipment and requirements. Include fire-watch personnel's training, duties, and authority to enforce fire safety.

- D. Safety and Health Standard: ANSI/ASSP A10.6.

1.8 STORAGE AND HANDLING OF HISTORIC MATERIALS

- A. Identification: Photograph, tag, and catalog historic items to be salvaged or reinstalled.

1. Identify each item with a nonpermanent location identification tag indicating item name or use, location, and location identification number to document its original location. Indicate original locations on plans, elevations, sections, or photographs by annotating the identifying tag.

- B. Salvaged Historic Materials:

1. Clean loose dirt and debris from salvaged historic items unless more extensive cleaning is indicated.
2. Salvage all Monumental Bi-Fold Bronze Door mechanical parts and components removed from existing doors to assist in the fabrication of new parts, including upper and lower pivot pins, locking assemblies, access panels, stops, bumpers, screws, bolts, and any other hardware.
3. Salvage all Bronze Pocket Door mechanical parts and components removed from existing doors to assist in the fabrication of new parts, including trolleys, locking assemblies, access panels, stops, screws, bolts, and any other hardware.
4. Lock Monumental Bi-Fold Bronze Doors into one another before removal. Build temporary bracing that ensures the structural integrity of the doors to allow the Monumental Bi-Fold Bronze Doors to safely bear on the adjacent structure below the existing portico without damaging surrounding finish floor materials. Wrap monumental bi-fold doors with angle irons welded to custom metal frame, including padding at each point of contact for protection, or other equivalent bracing method that ensures the structural integrity of the doors to allow for lifting using a crane.
5. Store items in a secure area until delivery to off-site fabrication facility.
6. Transport items to off-site fabrication facility with minimum 25' clear interior ceiling height.
7. Protect from damage and ensure structural integrity of doors during transport and storage.
8. Within fabrication facility hoist doors while ensuring structural integrity using a bridge crane / chain fall to a custom made 1/2" thick minimum steel topped platform or worktable at least 18' long by 8' wide and able to support the full weight of the doors in place for the duration of off-site restoration.

- C. Historic Materials for Reinstallation:

1. Thoroughly inspect inner structural steel framework of Monumental Bi-Fold Bronze Doors. Remove cast bronze panels as required for inspection of inner steel framework. At minimum straighten out distortion of existing inner frame.

2. Disassemble, repair/fabricate new, and install components as required for Monumental Bi-Fold Bronze Doors and Bronze Pocket Doors. Reem out middle hinges of bi-fold doors and replace with oil-light bearings and recessed grease fittings built into tops of pins. Fabricate new locking assemblies for all bi-fold door leaves using stainless steel. Fabricate new upper and lower pivot pins for bi-fold doors using stainless steel and the latest modern mechanical technology. Fabricate new trolleys for pocket doors using stainless steel.
 3. Drill out old screws, re-countersink, and resize larger for increased rigidity and structural integrity for bi-fold doors.
 4. Refinish all bronze doors and surrounding surfaces to “original statuary bronze finish, using original “Gorham patina formula” by lightly brushed or immersed several times in a 1.6% solution of ammonium sulphide until the desired color is achieved.
 5. Similar to during removing Monumental Bi-Fold Bronze Doors before transporting, lock door leaves to one another and wrap Monumental Bi-Fold Bronze Doors with angle irons welded to custom metal frame, including padding at each point of contact for protection, or other equivalent bracing method that ensures the structural integrity of the doors to allow for lifting using a crane. Once doors are back on site, rebuild same temporary bracing that ensures the structural integrity of the doors to allow the Monumental Bi-Fold Bronze Doors to safely bear on the adjacent structure below the existing portico without damaging surrounding finish floor materials.
 6. Protect doors and components from damage during transport and storage.
 7. Hoist bi-fold doors back into place using temporary bracing structure and crane or other method that ensures the structural integrity of the doors and the surrounding areas of the historic Capitol building. Reinstall doors in original locations by supporting and suspending the doors in the locked position in place and installing new upper and lower pivot pin assemblies. Comply with installation requirements for new materials and equipment unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make items functional for use indicated.
- D. Existing Historic Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Protect finish floor materials beneath exterior portico, interior space at the base of the stair, and all vestibules. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after historic treatment and construction work in the vicinity is complete.
- E. Storage: Store historic items within a weathertight warehouse where they are protected from moisture, weather, condensation, and freezing temperatures.
1. Secure stored materials to protect from theft.
 2. Control humidity so that it does not exceed 85 percent. Maintain temperatures 5 deg F (3 deg C) or more above the dew point.
- F. Storage Space:

1. Owner will arrange for limited on-site location(s) for free storage of historic doors, components, and materials. This storage space includes outdoor crate containers within the south portico and other staging areas as well as secure climate controlled interior space at the base of the monumental stair or other location within the Capitol building.
2. Arrange for off-site locations for storage and protection of historic material that cannot be stored and protected on-site.

1.9 FIELD CONDITIONS

- A. Size Limitations in Historic Spaces: Materials, products, and equipment used for performing the Work and for transporting debris, materials, and products shall be of sizes that clear surfaces within historic spaces, areas, rooms, and openings, including temporary protection, by 36 inches or more. Particular attention should be given to the stone exterior walls, portico columns, balustrades, historic floor materials of exterior portico and interior vestibules and spaces, and adjacent bronze statue(s) when hoisting the bi-fold doors using a crane.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION

3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from historic treatment procedures.
 1. Use only proven protection methods, appropriate to each area and surface being protected.
 2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where historic treatment work is being performed.
 3. Erect temporary barriers to form and maintain fire-egress routes.
 4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during historic treatment work.
 5. Contain dust and debris generated by historic treatment work and prevent it from reaching the public or adjacent surfaces.
 6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
 7. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
 8. Provide supplemental sound-control treatment to isolate removal and dismantling work from other areas of the building.
- B. Temporary Protection of Historic Materials:
 1. Protect existing historic materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
 2. Do not attach temporary protection to historic surfaces except as indicated as part of the historic treatment program and approved by Architect.

- C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.
- D. Utility and Communications Services:
 - 1. Notify Owner, Architect, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by historic treatment work before commencing operations.
 - 2. Maintain existing services unless otherwise indicated; keep in service, and protect against damage during operations. Provide temporary services during interruptions to existing utilities.

3.2 PROTECTION FROM FIRE

- A. Follow fire-prevention plan and the following:
 - 1. Comply with NFPA 241 requirements unless otherwise indicated. Perform duties titled "Owner's Responsibility for Fire Protection."
 - 2. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work.
 - a. If combustible material cannot be removed, provide fire blankets to cover such materials.
 - 3. Prohibit smoking by all persons within Project work and staging areas.
- B. Heat-Generating Equipment and Combustible Materials: Comply with the following procedures while performing work with heat-generating equipment or combustible materials, including welding, torch-cutting, soldering, brazing, removing paint with heat, or other operations where open flames or implements using high heat or combustible solvents and chemicals are anticipated:
 - 1. Obtain Owner's approval for operations involving use of open-flame or welding or other high-heat equipment. Notify Owner at least 72 hours before each occurrence, indicating location of such work.
 - 2. As far as practicable, restrict heat-generating equipment to shop areas or outside the building.
 - 3. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that area is safe.
 - 4. Use fireproof baffles to prevent flames, sparks, hot gases, or other high-temperature material from reaching surrounding combustible material.
 - 5. Prevent the spread of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.
 - 6. Fire Watch: Before working with heat-generating equipment or combustible materials, station personnel to serve as a fire watch at each location where such work is performed. Fire-watch personnel shall have the authority to enforce fire safety. Station fire watch according to NFPA 51B, NFPA 241, and as follows:
 - a. Train each fire watch in proper operation of fire-control equipment and alarms.

- b. Prohibit fire-watch personnel from other work that would distract from fire-watch duties.
 - c. Cease work with heat-generating equipment whenever fire-watch personnel are not present.
 - d. Have fire-watch personnel perform final fire-safety inspection each day beginning no sooner than 30 minutes after conclusion of work in each area to detect hidden or smoldering fires and to ensure that proper fire prevention is maintained.
 - e. Maintain fire-watch personnel at each area of Project site until 60 minutes after conclusion of daily work.
- C. Fire-Control Devices: Provide and maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids. Maintain each as suitable for type of fire risk in each work area. Ensure that nearby personnel and fire-watch personnel are trained in fire-extinguisher and blanket use.
- D. Sprinklers: Where sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. If operations are performed close to sprinklers, shield them temporarily with guards.
- 1. Remove temporary guards at the end of work shifts, whenever operations are paused, and when nearby work is complete.

3.3 PROTECTION DURING APPLICATION OF CHEMICALS

- A. Protect motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm or spillage resulting from applications of chemicals and adhesives.
- B. Cover adjacent surfaces with protective materials that are proven to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in historic treatment program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.
- C. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.
- D. Neutralize alkaline and acid wastes and legally dispose of off Owner's property.
- E. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

3.4 GENERAL HISTORIC TREATMENT

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

- B. Ensure that supervisory personnel are present when historic treatment work begins and during its progress.
- C. Record existing work before each procedure (preconstruction), and record progress during the work. Use digital preconstruction documentation photographs or video recordings. Comply with requirements in Section 013233 "Photographic Documentation."
- D. Perform regular inspections of Project site as the Work progresses to detect hazards resulting from historic treatment procedures.
- E. Follow the procedures in subparagraphs below and procedures approved in historic treatment program unless otherwise indicated:
 - 1. Retain as much existing material as possible; repair and consolidate rather than replace.
 - 2. Use additional material or structure to reinforce, strengthen, prop, tie, and support existing material or structure.
 - 3. Use reversible processes wherever possible.
 - 4. Use historically accurate repair and replacement materials and techniques unless otherwise indicated.
- F. Notify Architect of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.
 - 1. Do not proceed with the work in question until directed by Architect.
- G. Where missing features are indicated to be repaired or replaced, provide work with appearance based on accurate duplications rather than on conjecture, subject to approval of Architect.
- H. Where work requires existing features to be removed or dismantled and reinstalled, perform these operations without damage to the material itself, to adjacent materials, or to the substrate.
- I. Identify new and replacement materials and features with permanent marks hidden in the completed Work to distinguish them from original materials. Record a legend of identification marks and the locations of the items on record Drawings.

3.5 HISTORIC TREATMENT SCHEDULE

- A. Spaces, areas, rooms, and surfaces requiring special care and treatment to ensure successful restoration are indicated on Drawings.

END OF SECTION 013591

SECTION 014339 - MOCKUPS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Bronze cleaning mockups.
2. Bronze refinishing mockups.
3. Bronze door mockups.

B. Related Requirements:

1. Section 01 3591 "Historic Treatment Procedures"
2. Section 05 0371 "Historic Decorative Metal Cleaning"
3. Section 05 0373 "Historic Decorative Metal Refinishing"
4. Section 080311.01 "Historic Treatment of Bronze Doors – Pocket Doors", 080311.02 "Historic Treatment of Bronze Doors – Monumental Bi-fold Doors", and 080311.03 "Historic Treatment of Bronze Doors – Mechanical Parts and Assemblies"

1.2 ALLOWANCES

- A. See Section 012100 "Allowances" for description of allowances affecting items specified in this Section.**

1.3 DEFINITIONS

- A. Bronze cleaning mockups: Mockups using methods of cleaning listed in the approved methods under Section 05 0371 "Historic Decorative Metal Cleaning" .**
- B. Bronze refinishing mockups: Mockups using methods of refinishing listed in the approved methods under Section 05 0373 "Historic Decorative Metal Refinishing"**
- C. Bronze Door Mockups: Integrated mechanical mockups constructed at workshop to verify performance characteristics.**

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project Site or off-site workshop .**
1. Meet with Owner, Specialty Door Contractor, Architect, testing and inspecting agency representative, and installers of major systems whose Work is included in mockups.
 2. Review locations and extent of mockups.

3. Review testing procedures to be performed on mockups.
4. Review and finalize schedule for mockups, and verify availability of materials, personnel, equipment, and facilities needed to complete mockups [**and testing**] and maintain schedule for the Work.

1.5 ACTION SUBMITTALS

- A. Shop Drawings: For Bronze Door Mockups[**workshop**].
1. Include plans, elevations, sections, and mounting, attachment, and support] details.
 2. Indicate manufacturer and model number of individual components, subassemblies, and assemblies.
 3. Include location drawing **indicating orientation of mockup**.
 4. Revise and resubmit Shop Drawings to reflect approved modifications in details and component interfaces resulting from changes made during testing procedures.

1.6 INFORMATIONAL SUBMITTALS

1.7 QUALITY ASSURANCE

- A. Bronze Door Mockup Testing Agency Qualifications: Qualified in accordance with ASTM E699 for testing indicated[**and accredited by IAS or ILAC Mutual Recognition Arrangement as complying with ISO/IEC 17025**].
- B. Build mockups to do the following:
1. Verify selections made under Sample submittals.
 2. Demonstrate aesthetic effects.
 3. Demonstrate the qualities of products and workmanship.
 4. Demonstrate acceptable coordination between components and systems.
 5. Perform preconstruction testing, such as window air- and water-leakage testing.
- C. Fabrication: Before fabricating or installing portions of the Work requiring mockups, build mockups for each form of construction and finish required. Use materials and installation methods as required for the Work.
1. Build mockups of size indicated.
 2. Build mockups in location indicated or, if not indicated, as directed by Architect or Specialty Bronze Door Contractor].
 3. Employ supervisory personnel who will oversee mockup construction. Employ workers who will be employed to perform same tasks during the construction at Project.
 4. Demonstrate the proposed range of aesthetic effects and workmanship.
 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
- D. Notifications:

1. Notify Architect seven days in advance of the dates and times when mockups will be constructed.
 2. Notify Architect and Specialty Bronze Door Contractor **14** days in advance of the dates and times when mockups will be tested.
 3. Allow **seven** days for initial review and each re-review of each mockup.
- E. Approval: Obtain Architect's and Specialty Bronze Door Contractor approval of mockups before starting fabrication or construction of corresponding Work.
1. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 COORDINATION

- A. Coordinate schedule for construction of mockups, so construction, testing, and review of mockups do not impact Project schedule.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

2.2 Bronze Door Mockups

- A. Construct integrated bronze door frame and mechanical assembly mockups **according** to approved mockup Shop Drawings. Construct mockups to demonstrate constructability, coordination of trades, and sequencing of Work; and to ensure materials, components, subassemblies, assemblies, and interfaces integrate into a system complying with indicated performance and aesthetic requirements.
- B. Build mockups using installers and construction methods that will be used in completed construction.
- C. Use specified products that have been approved by Architect and Specialty Bronze Door Contractor. Coordinate installation of materials and products specified in individual Specification Sections that include Work included in mockups.
- D. The Work of Bronze Door Mockups includes, but is not limited to, the following:
1. Bronze door inner framework
 2. Bronze door mechanical parts.
 3. Bronze door mechanical assemblies.
 4. Bronze door mechanical hardware.

5. Bronze door hinges.
 6. Bronze door pivot pins.
 7. Bronze door latches.
 8. Bronze door trolleys.
 9. Joint sealants.
- E. Photographic Documentation: Document construction of Bronze Door mockups with photographs in accordance with Section 013233 "Photographic Documentation." Provide photographs showing details of interface of different materials and assemblies.
1. Document testing procedures, including water leakage and other deficiencies. Photograph modifications to component interfaces intended to correct deficiencies.
- F. Provide and document modifications to construction details and interfaces between components and systems required to properly sequence the Work, or to pass performance testing requirements. Obtain Architect's and Specialty Bronze Door Contractor approvals for modifications.
- G. Retain approved mockups constructed in place. Incorporate fully into the Work.

2.3 **Bronze Cleaning** Mockups

- A. Clean bronze surfaces using approved methods listed in 05 0371 Historic Decorative Metal Cleaning.
- B. Use specified products that have been approved by Architect. Coordinate installation of materials and products specified in individual Specification Sections that include Work included in cleaning mockups.
- C. Provide cleaning mockups in 1'-0" x 1'-0" squares at the following locations:
1. Center Bi-fold doors.
 2. West Sliding Pocket doors.
 3. East Sliding Pocket doors.
 4. Bronze Pilaster
 5. Bronze Transom Frame
 6. Bronze Transom Grill
 7. Bronze Threshold
- D. Photographic Documentation: Document construction of bronze cleaning mockups with photographs in accordance with Section 013233 "Photographic Documentation." Provide photographs showing details of interface of different materials and assemblies.

1. Document testing procedures, including water leakage and other deficiencies. Photograph modifications to component interfaces intended to correct deficiencies.
- E. Provide and document modifications to construction details and interfaces between components and systems required to properly sequence the Work, or to pass performance testing requirements. Obtain Architect's Specialty Bronze Door Contractor approval for modifications.
- 2.4 Bronze Refinishing Mockups
- A. Refinish bronze surfaces using approved methods listed in 05 0372 Historic Decorative Metal Refinishing.
 - B. Provide mockups of the following areas, same as with cleaning:
 1. Center Bi-fold doors.
 2. West Sliding Pocket doors.
 3. East Sliding Pocket doors.
 4. Bronze Pilaster
 5. Bronze Transom Frame
 6. Bronze Transom Grill
 7. Bronze Threshold

PART 3 - EXECUTION

END OF SECTION 014339

SECTION 015000 – CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes requirements for construction facilities and temporary controls including temporary utilities, support facilities, security, and protection.
- B. Temporary utilities include, but are not limited to, the following:
 - 1. Temporary heat
- C. Support facilities include, but are not limited to, the following:
 - 1. Field offices and storage sheds
 - 2. Temporary enclosures
 - 3. Hoists
 - 4. Temporary project identification signs and bulletin boards
 - 5. Construction aids and miscellaneous services and facilities
- D. Security and protection facilities include, but are not limited to, the following:
 - 1. Temporary fire protection
 - 2. Barricades, warning signs, and lights
 - 3. Sidewalk bridge or enclosure fence for the site
 - 4. Environmental protection

1.3 SUBMITTALS

- A. Temporary Utilities: Submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.
- B. Implementation and Termination Schedule: Within (15) days of the date established for commencement of the Work, submit a schedule indicating implementation and termination of each temporary utility.

1.4 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations including, but not limited to, the following:
 - 1. Building code requirements
 - 2. Health and safety regulations

3. Utility company regulations
 4. Police, fire department, and rescue squad rules
 5. Environmental protection regulations
- B. Standards: Comply with NFPA 241 “Standard for Safeguarding Construction, Alterations, and Demolition Operations”. ANSI A10 Series standards for “Safety Requirements for Construction and Demolition”, and NECA Electrical Design Library “Temporary Electrical Facilities”.
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.5 PROJECT CONDITIONS

- A. Temporary Utilities: Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of permanent service.
- B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist onsite.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide new materials. If acceptable to the Designer, the Contractor may use undamaged, previously used materials in serviceable condition. Provide materials suitable for use intended.
- B. Lumber and Plywood:
1. For job-built temporary office, shops, and sheds within the construction area, provide UL-labeled, fire-treated lumber and plywood for framing, sheathing, and siding.
 2. For signs and directory boards, provide exterior-type, Grade B-B high-density concrete form overlay plywood of sized and thicknesses indicated.
 3. For fences and vision barriers, provide minimum 3/9” (9.5mm) thick exterior plywood.
 4. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8” (16mm) thick exterior plywood.
- C. Gypsum Wallboard: Provide gypsum wallboard on interior walls of temporary offices.
- D. Roofing Materials: Provide UL Class A standard-weight asphalt shingles or UL Class C mineral-surfaced roll roofing on roofs of job-built temporary office, shops, and shed.
- E. Paint:

1. For job-built temporary offices, shops, sheds, fences, and other exposed lumber and plywood, provide exterior-grade acrylic-latex emulsion over exterior primer.
 2. For sign panels and applying graphics, provide exterior-grade alkyd gloss enamel over exterior primer.
 3. For interior walls of temporary offices, provide two (2) quarts interior latex-flat wall paint.
- F. Tarpaulins: Provide waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of (15) or less. For temporary enclosures, provide translucent, nylon-reinforced laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.
- G. Water: Provide potable water approved by local health authorities.
- H. Open-Mesh Fencing: Provide 0.120" (3mm) thick, galvanized 2" (50mm) chainlink fabric fencing 6' (2m) high with galvanized steel pipe posts, 1½" (38mm) ID for line posts and 2½" (64mm) ID for corner posts.

2.2 EQUIPMENT

- A. General: Provide new equipment. If acceptable to the Designer, the Contractor may use undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.
- B. Electrical Power Cords: Provide grounded extension cords. Use hard-service cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage rating.
- C. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed.
- D. Fire Extinguishers: Provide hand-carried, portable, UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers, or a combination of extinguishers of NFPA-recommended classes for the exposures.
1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Provide each Facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Engage the appropriate local utility company to install temporary service or connect to existing service. Where company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with company recommendations.
1. Arrange with company and existing users for a time when service can be interrupted, if necessary, to make connections for temporary services.
 2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
 3. Obtain easements to bring temporary utilities to the site where the Owner's easements cannot be used for that purpose.
 4. Use Charges: Cost or use charges for temporary facilities are not chargeable to the Owner or Designer. Neither the Owner nor Designer will accept cost or use charges as a basis of claims for Change Order.
- B. Temporary Electric Power Service: The Owner will provide electric power for construction lighting and power tools. Contractors using such services shall pay all costs of temporary services, circuits, outlet, extensions, etc.
- C. Temporary Heating: Provide temporary heat required by construction activities for curing or drying of completed installations or for protection of installed construction from adverse effects of low temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.
1. Heating Facilities: Except where the Owner authorizes use of the permanent system, provide vented, self-contained, LP gas or fuel-oil heaters with individual space thermostatic control.
 2. Use of gasoline-burning space heaters, open flame, or salamander heating units is prohibited.
- D. Temporary Heating and Cooling: The normal heating and/or cooling system of the building shall be maintained in operation during the construction. Should the Contractor find it necessary to interrupt the normal HVAC service to spaces, which have not been vacated for construction, such interruptions shall be pre-scheduled with the Construction Representative.
- E. Temporary Toilets: The Owner will provide toilets and associated facilities within the building. All construction personnel will be allowed access only to those specific facilities designated by the Construction Representative.
- F. Wash Facilities: The Owner will provide wash facilities within the building. All construction personnel will be allowed access only to those specific facilities designated by the Construction Representative.
- G. Drinking-Water Facilities: The Owner will provide drinking water facilities within the building. All construction personnel will be allowed access only to those specific facilities designated by the Construction Representative.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Locate field offices, storage sheds, and other temporary construction and support facilities for easy access.
 - 1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
- B. Storage Facilities: The Owner will provide storage onsite as designated by the Facility Representative or the Construction Representative. Areas for use by the Contractor for storage will be identified at the Pre-Bid Meeting.
- C. Construction Parking: Contractors must be prepared to discuss their storage and parking needs at the Pre-Bid Meeting. Parking for construction personnel cannot be provided onsite. All parking will be offsite. The Contractor will have to park on the street, in city-owned lots, or in commercial lots. Under no circumstances will any vehicle be parked in a fire lane. Parking on lawns shall be prohibited.
- D. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.
 - 1. Where heat is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and materials drying or curing requirements to avoid dangerous conditions and effects.
 - 2. Install tarpaulins securely with incombustible wood framing and other materials. Close openings of 25SqFt (2.3SqM) or less with plywood or similar materials.
 - 3. Where temporary wood or plywood enclosure exceeds 100SqFt (9.2SqM) in area, use UL-labeled, fire-retardant-treated material for framing and main sheathing.
- E. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered “tools and equipment” and not temporary facilities.
- F. Temporary Elevator Use: The Owner will allow use of elevators within the building. All construction personnel will be allowed access only to those specific elevators designated by the Construction Representative.
- G. Project Identification and Temporary Signs: Prepare project identification and other signs of size indicated. Install signs where indicated to inform the public and persons seeking entrance to the Project. Support on posts or framing of preservative-treated wood or steel. Do not permit installation of unauthorized signs.
 - 1. Project Identification Signs: Engage an experienced sign painter to apply graphics. Comply with details indicated.
 - 2. Temporary Signs: Prepare signs to provide directional information to construction personnel and visitors.

- H. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than seven (7) days during normal weather or three (3) days when the temperature is expected to rise above 80°F (27°C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion, or longer, as requested by the Designer.
- B. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed, provide lighting including flashing red or amber lights.
- C. Enclosure Fence: Before work begins, install an enclosure fence with lockable entrance gates. Locate where indicated, or enclose the entire site or the portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from easily entering the site, except by the entrance gates.
1. Provide plywood fence, 8' (2.5m) high, framed with (4) 2"x4" (50mm x 100mm) rails, and preservative-treated wood posts spaced not more than 8' (2.5m) apart.
- D. Covered Walkway: During crane activities, erect a structurally adequate, protective covered walkway for passage of persons along the adjacent public street and walkway. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction.
1. Construct covered walkways using scaffold or shoring framing. Provide wood plank overhead decking, protective plywood enclosure walls, handrails, barricades, warning signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage. Extend the back wall beyond the structure to complete the enclosure fence. Paint and maintain in a manner acceptable to the Owner and the Designer.
- E. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
1. Storage: Where materials and equipment must be stored and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- F. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near the site.

3.5 OPERATION, TERMINATION AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Termination and Removal: Unless the Designer requests that it be maintained longer, remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are the Contractor's property. The Owner reserves the right to take possession of project identification signs.

END OF SECTION 015000

SECTION 017400 – CLEANING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for cleaning during the Project.
- B. Environmental Requirements: Conduct cleaning and waste-disposal operations in compliance with local laws and ordinances. Comply fully with federal and local environmental and anti-pollution regulations.
 - 1. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 2. Burning or burying of debris, rubbish, or other waste material on the premises is not permitted.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by the manufacturer or fabricator for the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
- B. Cleaning of Bronze: See Section 05 0371 – Historic Decorative Metal Cleaning

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

- A. General
 - 1. Retain all stored items in an orderly arrangement allowing maximum access, not impeding drainage or traffic, and providing the required protection of materials.
 - 2. Do not allow the accumulation of scrap, debris, waste material, and other items not required for construction of this Work.
 - 3. At least twice each month, and more often if necessary, completely remove all scrap, debris, and waste material from the jobsite.
 - 4. Provide adequate storage for all items awaiting removal from the jobsite, observing all requirements for fire protection and protection of the ecology.

B. Site

1. Daily, inspect the site and pick up all scrap, debris, and waste material. Remove all such items to the place designated for their storage.
2. Weekly, inspect all arrangements of materials stored onsite. Re-stack, tidy, or otherwise service all material arrangements.
3. Maintain the site in a neat and orderly condition at all times.

C. Structures

1. Daily, inspect the structures and pick up all scrap, debris, and waste material. Remove all such items to the place designated for their storage.
2. Weekly, sweep all interior spaces clean. "Clean" for the purposes of this paragraph, shall be interpreted as meaning free from dust and other material capable of being removed by use of reasonable effort and handheld broom.
3. In preparation for installation of succeeding materials, clean the structures or pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using all equipment and materials required to achieve the required cleanliness.
4. Following the installation of finish floor materials, clean the finish floor daily while work is being performed in the space in which finish materials have been installed. "Clean" for the purposes of this subparagraph, shall be interpreted as meaning free from all foreign material which, in the opinion of the Construction Representative, may be injurious to the finish of the finish floor material.

3.2 FINAL CLEANING

- A. General: Provide final cleaning operations when indicated. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of Work to the condition expected from a commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
- B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for the entire Project or a portion of the Project.
 1. Clean the Project Site, yard and grounds, in areas disturbed by construction activities including landscape development areas, of rubbish, waste material, litter, and foreign substances.
 2. Sweep paved areas broom clean. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 3. Remove petrochemical spills, stains, and other foreign deposits.
 4. Remove tools, construction equipment, machinery, and surplus material from the site.
 5. Remove snow and ice to provide safe access to the building.
 6. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their

- original condition.
7. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 8. Broom clean concrete floors in unoccupied spaces.
 9. Vacuum clean carpet and similar soft surfaces removing debris and excess nap. Shampoo, if required.
 10. Clean transparent material, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 11. Remove labels that are not permanent labels.
 12. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - a. Do not paint over “UL” and similar labels, including mechanical and electrical nameplates.
 13. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs and defective and noisy starters in fluorescent and mercury vapor fixtures.
 14. Leave the Project clean and ready for occupancy.
- C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid the Project of rodents, insects, and other pests. Comply with regulations of local authorities.
- D. Removal of Protection: Remove temporary protection and facilities installed during construction to protect previously completed installations during the remainder of the construction period.
- E. Compliances: Comply with governing regulations and safety standards for cleaning operations. Remove waste materials from the site and dispose of lawfully.
1. Where extra materials of value remain after Final Acceptance by the Owner, they become the Owner’s property.

END OF SECTION 017400

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Demonstration of operation of bronze doors.
 - 2. Training in operation and maintenance of bronze doors.

1.3 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a proposed date, times, length of instruction time, and instructors' name. Include learning objective and outline for each training module.
- B. Attendance Record: For each training module, submit list of participants and length of instruction time.

1.4 QUALITY ASSURANCE

- A. Qualifications: Specialty bronze door contractor to lead training for maintenance personnel.
- B. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Coordination". Review methods and procedures related to demonstration and training including, but not limited to, the following:
 - 1. Inspect and discuss functionality of all doors and door parts.
 - 2. Review required operation and maintenance best practices.
 - 3. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.5 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an brief but thorough instruction program that includes overview of all bronze door components, functionality, and best practices for operation and maintenance.
 - 1. Documentation: Review the following items in detail:
 - a. Operations manuals.
 - b. Maintenance manuals.
 - c. Project record documents.
 - d. Warranties and bonds.
 - 2. Emergencies: Include the following, as applicable:
 - a. Operating instructions for conditions outside of normal operating limits.
 - b. Sequences for electric or electronic systems.
 - c. Special operating instructions and procedures.
 - 3. Operations: Include the following, as applicable:
 - a. Routine and normal operating instructions.
 - b. Safety procedures.
 - c. Operating procedures for emergencies.
 - d. Seasonal and weekend operating instructions.
 - e. Required sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
 - 4. Adjustments: Include the following:
 - a. Alignments.
 - b. Adjustments of new mechanical parts.
 - c. Economy and efficiency adjustments.
 - 5. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - 6. Maintenance: Include the following:
 - a. Types of cleaning agents to be used and methods of cleaning.
 - b. List of cleaning agents and methods of cleaning detrimental to product.
 - c. Procedures for routine cleaning
 - d. Procedures for preventive maintenance.
 - e. Procedures for routine maintenance.
 - f. Instruction on use of special tools.
 - 7. Repairs: Include the following:

- a. Diagnosis instructions.
- b. Repair instructions.
- c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
- d. Instructions for identifying parts and components.
- e. Review of spare parts needed for operation and maintenance.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 007213 "General Conditions".
- B. Set up instructional equipment at instruction location.

3.2 INSTRUCTION

- A. Specialty Bronze Door Contractor to instruct owner's maintenance personnel to adjust, operate, and maintain bronze doors.
- B. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 1. Schedule training with Owner with at least seven days' advance notice.
- C. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- D. Cleanup: Collect used and leftover educational materials and remove from Project site. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

END OF SECTION 017900

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Demolition and removal of selected site elements.
3. Salvage of existing items to be reused, repaired, restored, replaced, or recycled.

B. Related Requirements:

1. Section 01 3233 "Photographic Documentation" for administrative and procedural requirements for photographs and video to be taken during completion of the work.
2. Section 01 3591 "Historic Treatment Procedures" for securing the interior of the building during work, protecting the existing historic finishes within the area of work, and supporting door parts that are disassembled.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: For items to salvage to owner, but not for reinstallation. Detach items from existing construction, in a manner to prevent damage, and store in maintenance shop, or transport to off-site storage facility.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.
- E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.3 MATERIALS OWNERSHIP

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

- B. Historic items, relics, antiques, and similar objects including, but not limited to, door components, hardware, assemblies, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.4 PREINSTALLATION MEETINGS

- A. Pre-demolition Conference: Conduct conference at Project Site on interior of stair and outside of monumental bronze doors under exterior portico.
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review structural load limitations of existing structure beneath portico and interior spaces, including original steel framing structural drawings.
 - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 - 5. Review areas where existing construction is to remain and requires protection.
 - 6. Include Architect, Contractor, Subcontractors, Owner, Specialty Monumental Bronze Door Contractor, and all other personnel concerned with selective demolition, salvage, and transportation of doors and door components.

1.5 INFORMATIONAL SUBMITTALS

- A. Engineering Survey: At this time, no structural engineer is required as part of the base bid scope of work. Once demolition of the surrounding area uncovers obstructed structural members, including below the lower pivot pins, above at the upper pivot pins, and beneath the side door pocket headers, the project team should examine and assess the need for bringing on a structural engineer at that time. If services of a structural engineer is deemed necessary by the project team and the client agrees, a structural engineering survey of surrounding structural conditions of building adjacent to monumental bronze doors will be added to the contract.
- B. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property for security and for noise control. Indicate proposed locations and construction of barriers.
- C. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - 2. Use of elevator and stairs.

3. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
 - D. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by salvage and demolition operations. Comply with Section 013233 "Photographic Documentation." Submit before Work begins.
 - E. Warranties: Documentation indicating that existing warranties from exterior plaza waterproofing project are still in effect after completion of selective demolition.
- 1.6 CLOSEOUT SUBMITTALS
- A. Inventory: Submit a list of items that have been removed and salvaged.
- 1.7 FIELD CONDITIONS
- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
 - B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
 - D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 1. Hazardous materials will be removed by Owner before start of the Work.
 2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
 - E. Historic Areas: Demolition and hauling equipment and other materials shall be of sizes that clear surfaces within historic spaces, areas, rooms, and openings, including temporary protection, by 36 inches or more.
 - F. Storage of removed items or materials on-site should be securely stored in lockable crates in staging areas, stored in maintenance shop, or transported to off-site fabrication facility. Sale of contractor controlled removed items or materials on-site is not permitted.
 - G. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 1. Maintain fire-protection facilities in service during selective demolition operations.

1.8 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties. Notify warrantor before proceeding. Existing warranties include the following:
 - 1. Warranties for exterior stonework and plaza waterproofing
- B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

1.9 COORDINATION

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

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Upon removal and salvage for reinstallation of wood and glass vestibule, monumental bi-fold door pocket areas, and monumental bi-fold doors, Contractor and Architect to examine and determine if it is necessary to engage a professional engineer to perform a structural engineering survey of structural steel framing conditions above, below, and adjacent to doors. Engineering survey, if required, should determine if there is any structural deficiency of any portion of structure or adjacent structures to the doors that will prohibit proper functioning of restored doors.
 - .
- B. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.
 - 1. Inventory and record the condition of items to be removed and salvaged.
 - 2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 PREPARATION

3.3 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Install temporary closure to door opening, constructed of wood framing with flush 5/8" ACX fir plywood facing, each side, painted. Closure shall provide security, and weathertightness. Install one set of double hollow metal doors with locks for access.
 5. Protect portico columns and adjacent statuary to allow for the safe use of a crane to hoist the bronze doors onto truck for transportation.
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
1. Strengthen or add new supports when required during progress of selective demolition.
 2. Construct support framework around monumental bronze doors in the closed position in place including padding at points of contact which will ensure the structural integrity of the doors during hoisting and transportation.
 3. Construct temporary support structure for the monumental bi-fold bronze doors that safely bears on existing adjacent structural steel framing below portico. Ensure the structural viability of this floor location using original structural steel framing drawings and if necessary a structural engineer's examination report provided by contractor.
- C. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION, GENERAL

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

1. Proceed with selective demolition systematically, from higher to lower level. . Brace monumental doors in the closed position before removing upper pivot pin of carrying leaf and then remove lower pivot pin. Consult the help of structural engineer, contractor, and door consultant for adequate bracing and during pivot pin removal.
 2. Use methods least likely to damage pivot pins and other door components to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches unless absolutely necessary to remove pivot pins. Do not use until work area is cleared of flammable materials. At concealed spaces, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 5. Maintain fire watch during and for at least 2 hours after flame-cutting operations.
 6. Maintain adequate ventilation when using cutting torches.
 7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 8. Lower monumental doors to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 10. Salvage full pivot pin assemblies, trollies, and other parts removed on-site for matching dimensions, profiles, shapes, and configurations of new stainless steel fabrication of parts and assemblies.
 11. Dispose of demolished items and materials not salvaged to owner promptly. Comply with requirements in Section 017100 "Cleaning."
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Mark contents of containers.
 3. Store items in a secure area until transportation to owner's off-site facility.
 4. Transport items to off-site fabrication facility.

5. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:

1. Clean items to functional condition adequate for intended reuse.
2. Transport monumental bi-fold bronze doors and sliding pocket doors to off-site fabrication facility with at least 25' clear interior ceiling height.
3. Pack or crate items after cleaning and repairing. Identify contents of containers.
4. Protect from damage and ensure structural integrity of doors during transport and storage.
5. Reinstall monumental bi-fold doors and sliding pocket doors in original location once restored. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

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

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete/cement fill in beam below monumental doors: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch (19 mm) at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to required dimensions.
- B. Monumental bronze door pivot pin assembly: If required, cut single slice in pivot pin or as few cuts as possible to remove doors from opening. Fully remove and disassemble entirety of pivot pins from their locations and salvage for matching dimensions, profiles, shapes, and mechanical configurations. See 080311-03 for new pivot pin assembly specifications.
- C. Monumental bronze door middle hinge: Reem out pins of 14-part middle hinge between meeting leaf and carrying leaf of monumental bronze doors and salvage for matching dimensions, profiles, shapes, and mechanical configurations. See 080311-03 for new hinge specifications.
- D. Monumental bronze doors locking assembly: Disassemble and salvage for matching dimensions, profiles, shapes, and mechanical configurations. See 080311-03 for new locking assembly specifications.
- E. Monumental bronze doors closing latch and receiver assembly: Disassemble and salvage for matching dimensions, profiles, shapes, and mechanical configurations. See 080311-03 for new latch and receiver assembly specifications.
- F. Pocket door trollies: If required, cut single slice in trolley or disassemble surrounding track supports to remove bronze pocket doors from opening. Fully remove and disassemble entirety of

trolley system from its location for fabrication and installation of new system. See 080311-03 for new trolley specifications.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.

3.7 CLEANING

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

3.8 SELECTIVE DEMOLITION SCHEDULE

- A. The following items are to be verified by the Specialty Monumental Bronze Door Contractor during the restoration of the monumental bi-fold bronze doors and sliding pocket doors at the fabrication facility. These items may change depending on the direction of the Specialty Monumental Bronze Door Contractor and the ability to salvage or repair rather than replace some mechanical parts and assemblies.
- B. Remove: All items being removed are being repaired or replaced. At minimum salvage all selective demolition. See below.
- C. Remove, Salvage, and Reinstall:
 - 1. Wood and Glass Vestibule
 - 2. Monumental Bi-Fold Bronze Door Surrounding Pocket & Soffit Panels
 - 3. Monumental Bi-Fold Bronze Door Pivot Housing & Soffit Panels
 - 4. Pocket Bronze Door Access Panels
 - 5. Hardware
- D. Remove, Repair/Fabricate New, and Reinstall:
 - 1. Monumental Bi-Fold Bronze Doors
 - a. Corner Pivot Pin Assemblies
 - b. Center Pivot Hinges
 - c. Locking Assemblies
 - d. Pocket Bumper/Stop
 - e. Carrying Leaf Receiving Latch
 - f. Receiving Hole for Latch (inner components)

- g. Missing Interior Header Trim (if original trim piece not located by Owner)
 - h. Threshold
 - 2. Pocket Bronze Doors
 - a. Trolleys, Tracks, & Hardware
 - b. Threshold
 - c. Pocket Floor
- E. Existing to Remain:
 - 1. Monumental Bi-Fold Bronze Doors
 - a. Posts
 - b. Carrying Leaf Bumper
 - c. Meeting Leaf Lock Bolt
 - d. Receiver Hole/Latch for Post
 - e. Locking Mechanism Access Panel
 - 2. Pocket Bronze Doors
 - a. Access Panels
 - b. Slider Handles
 - c. Slider Lower Track
 - d. Floor Guide
 - e. Slider Interior Handle
 - f. Locks
- F. Dismantle:
 - 1. Surrounding areas around Monumental Bi-Fold Bronze Doors that require access to remove doors from opening.
 - 2. Monumental Bronze Doors
 - a. Cast Bronze Panels (2) per Leaf at fabrication facility.
 - b. Inner structural framework (if necessary) at fabrication facility to assess structural integrity of doors.

END OF SECTION 024119

SECTION 040342 - HISTORIC STONE MASONRY REPAIR

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes historic treatment work consisting of repairing historic stone assemblies as follows:
 - 1. Crack repair by pinning, injection, and by widening and sealing.
- B. Related Requirements:
 - 1. Section 013591 "Historic Treatment Procedures."
 - 2. Section 024119 "Selective Demolition" for demolition work.

1.3 REFERENCES

- A. Marble Institute of America
 - 1. MIA Design Manual, Current Edition.

1.4 DEFINITIONS

- A. Low-Pressure Spray: 100 to 400 psi (690 to 2750 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).
- B. Face Bedding: Setting of stone with the rift or natural bedding planes (strata) vertical and parallel to the wall plane rather than horizontal or "naturally bedded," which holds bedding planes together by gravity.
- C. Rebuilding (Setting) Mortar: Mortar used to set and anchor masonry in a structure, distinct from pointing mortar installed after masonry is set in place.
- D. Rift: The most pronounced direction of splitting or cleavage of a stone.
- E. Stone Terminology: ASTM C 119.

1.5 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to repairing historic stone masonry including, but not limited to, the following:
 - a. Verify historic treatment specialist's personnel, equipment, and facilities needed to make progress and avoid delays.
 - b. Materials, material application, sequencing, tolerances, and required clearances.
 - c. Quality-control program.
 - d. Fire-protection plan.
 - e. Coordination with building occupants.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include recommendations for product application and use. Include test data substantiating that products comply with requirements.

B. Shop Drawings:

1. Show replacement and repair anchors, including drilled-in pins. Include details of anchors within individual stone units, with locations of anchors and dimensions of holes and recesses in stone required for anchors, including direction and angle of holes for pins.
2. Show locations of scaffolding and points of scaffolding in contact with masonry. Include details of each point of contact or anchorage.

C. Samples for Initial Selection: For the following:

1. Patching Compound: Submit sets of patching compound Samples in the form of plugs (patches in plastic rings or caps) in sample units of stone representative of the range of stone colors on the building.
 - a. Have each set contain a close color range of at least six Samples of different mixes of patching compound that matches the variations in existing stone when cured and dry. Provide one set for each type of stone to be patched, existing and replacement.
2. Include similar Samples of accessories involving color selection.

D. Samples for Verification: For the following:

1. Each type of patching compound in form of 2 inch diameter or square plugs in plastic stone samples. Document each Sample with manufacturer and stock number or other information necessary to order additional material.
2. Each type of adhesive.
3. Accessories: Each type of anchor, accessory, and miscellaneous support.

1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For historic treatment specialists including field supervisors and workers and testing service.
- B. Quality-control program.

1.8 QUALITY ASSURANCE

- A. Quality-Control Program: Prepare a written quality-control program for this Project to systematically demonstrate the ability of personnel to properly follow methods and use materials and tools without damaging masonry. Include provisions for supervising worker performance and preventing damage.
- B. Mockups: Prepare mockups of historic treatment on existing surfaces where indicated, otherwise prepare mock ups on salvage or new materials to demonstrate aesthetic effects and to set quality standards for materials and execution and for fabrication and installation.
 - 1. Stone Repair: Prepare sample areas for each type of stone indicated to have repair work performed. If not otherwise indicated, size each mockup not smaller than two adjacent whole units or approximately 48 inches (1200 mm) in least dimension. Construct sample areas in locations in existing walls where directed by Architect unless otherwise indicated. Demonstrate quality of materials, workmanship, and blending with existing work. Include the following as a minimum:
 - a. Crack Pinning with Epoxy Set Pins: Install one epoxy set pin.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 3. Subject to compliance with requirements, approved mockups may become part of the

1.9 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit repair work to be performed according to product manufacturers' written instructions and specified requirements.
- B. Temperature Limits, General: Repair stone units only when air temperature is between 40 and 90 deg F (4 and 32 deg C) and is predicted to remain so for at least seven days after completion of the Work unless otherwise indicated.
- C. Cold-Weather Requirements: Comply with the following procedures for stone repair unless otherwise indicated:
 - 1. When air temperature is below 40 deg F (4 deg C), heat mortar ingredients, repair materials, and existing stone to produce temperatures between 40 and 120 deg F (4 and 49 deg C).

2. When mean daily air temperature is below 40 deg F (4 deg C), provide enclosure and heat to maintain temperatures above 32 deg F (zero deg C) within the enclosure for seven days after repair.
- D. Hot-Weather Requirements: Protect stone repair when temperature, wind and humidity conditions produce excessive evaporation of water from mortar and patching materials. Provide artificial shade and wind breaks and use cooled materials as required to minimize evaporation. Do not apply mortar to substrates with temperatures of 90 deg F (32 deg C) and above unless otherwise indicated. Comply with ACI 503.1/ASCE6/TMS602.
- E. For manufactured repair materials, perform work within the environmental limits set by each manufacturer.

PART 2 - PRODUCTS

2.1 MANUFACTURED REPAIR MATERIALS

- A. Stone Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching stone.
1. Subject to compliance with requirements and preconstruction testing, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Cathedral Stone Products, Inc: Jahn M120 Marble and/or M70 Limestone Patching Mortars
 - b. Edison Coatings: Rosendale Composite Repair 13 P (for Limestone) or Custom System 45
 - c. US Heritage Group: HL 60 and/or MT15
 - d. For Dutchman joints in stones other than paving stones: US Heritage Group: Dispersed Hydrated Lime Spatchel.
 - e. For cracks indicated to be patched: US Heritage Group: Dispersed Hydrated Lime Spatchel.
 2. Use formulation that is vapor and water permeable (equal to or more than the stone), exhibits low shrinkage, has lower modulus of elasticity than the stone units being repaired, and develops high bond strength to all stone types.
 3. Use formulation having working qualities and retardation control to permit forming and sculpturing where necessary.
 4. Formulate patching compound in colors, textures, and grain to match stone being patched. Provide no fewer than three colors to enable blending and mixing in the field to match each piece of stone.
- B. Cementitious Crack Filler: An ultrafine superplasticized grout that can be injected into cracks, is suitable for application to wet or dry cracks, exhibits low shrinkage, and develops high bond strength to all stone types. Subject to compliance with requirements and preconstruction testing, available products that may be incorporated into the Work include, but are not limited to, the following:
1. Cathedral Stone Products, Inc: Jahn M30 and M40

2. US Heritage Group: DHL-IM and IG10
 3. Or approved equal
- C. Epoxy Crack Filler. Injectable, two component, exterior grade, high-strength, low-viscosity, epoxy resin adhesive for application to fine cracks, formulated for use on stone. Subject to compliance with requirements and preconstruction testing, available products that may be incorporated into the Work include, but are not limited to, the following:
1. Bonstone Corporation; Crack Repair 28 or 31
 2. Sika Corporation U.S.; Sikadur 35 Hi-Mod LV or 55 SLV
 3. Or approved equal

2.2 ACCESSORY MATERIALS

- A. Stone Anchors, Dowels and Pins: Type and size indicated or, if not indicated, to match existing anchors in size and type. Fabricate anchors and pins from Type 316 stainless steel.
1. Stone Trim Anchors: Units fabricated with tabs or dowels designed to engage kerfs or holes in stone trim units and holes for fasteners or postinstalled anchor bolts for fastening to substrates or framing as indicated.
 2. Post-installed Anchor Bolts for Fastening Stone Trim Anchors: Chemical anchors or torque-controlled expansion anchors made from stainless-steel components complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 (ASTM F 738M and ASTM F 836M, Alloy Group A1 or A4) for bolts and nuts; ASTM A 666 or ASTM A 276, Type 304 or Type 316, for anchors.
 3. Subject to compliance with requirements and preconstruction testing, Manufacturers with available pre-manufactured anchors and repair anchors that may be incorporated into the Work include, but are not limited to, the following:
 - a. Construction Tie Products, Inc
 - b. Helifix -USA
 - c. Heckman Building Products
 - d. Hohmann & Barnard, Inc
 - e. Simpson-StrongTie
 4. Provide miscellaneous metal supports and anchors for stonework as indicated.
- B. Setting Buttons and Shims: Resilient plastic, nonstaining to stone, sized to suit joint thicknesses and bed depths of stone units, less the required depth of pointing materials unless removed before pointing.
- C. Masking Tape: Nonstaining, nonabsorbent material; compatible with mortar, joint primers, sealants, and surfaces adjacent to joints; and that easily comes off entirely, including adhesive.
- D. Antirust Coating: SSPC-Paint 20 or SSPC-Paint 29 zinc-rich coating.
1. Surface Preparation: Use coating requiring no better than SSPC-SP 2, "Hand Tool Cleaning," or SSPC-SP 3, "Power Tool Cleaning," surface preparation according to manufacturer's literature or certified statement.

2. VOC Limit: Use coating with a VOC content of 400 g/L (3.3 lb/gal.) or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- E. Cementitious Dampproofing: Cementitious formulation recommended by ILI and nonstaining to stone, compatible with joint sealants, and noncorrosive to veneer anchors and attachments.
- F. Weep/Vent Products: Use one of the following unless otherwise indicated:
1. Wicking Material: Absorbent rope, made from cotton or UV-resistant synthetic fiber, 1/4 to 3/8 inch (6 to 10 mm) in diameter, in length required to produce 2-inch (50-mm) exposure on exterior and 18 inches (450 mm) in cavity. Use only for weeps.
 2. Mesh Weep Holes/Vents: Free-draining mesh; made from polyethylene strands, full width of head joint and 2 inches (50 mm) high by thickness of stone masonry; in color selected from manufacturer's standard.
- G. Cavity Drainage Material: Free-draining mesh, made from polymer strands that will not degrade within the wall cavity.
- H. Other Products: Select materials and methods of use based on the following, subject to approval of a mockup:
1. Previous effectiveness in performing work involved.
 2. Minimal possibility of damaging exposed surfaces.
 3. Consistency of each application.
 4. Uniformity of the resulting overall appearance.
 5. Do not use products or tools that could do the following:
 - a. Remove, alter, or harm the present condition or future preservation of existing surfaces, including surrounding surfaces not in contract.
 - b. Leave residue on surfaces.

PART 3 - EXECUTION

3.1 HISTORIC TREATMENT SPECIALIST

- A. For historic treatment specialists with experience in bronze replication, including field supervisors and workers and testing service.

3.2 PROTECTION

- A. Prevent mortar from staining face of surrounding stone and other surfaces.
1. Cover sills, ledges, and other projecting items to protect them from mortar droppings.
 2. Keep wall area wet below rebuilding and pointing work to discourage mortar from adhering.
 3. Immediately remove mortar splatters in contact with exposed masonry and other surfaces.
 4. Use grout sponges, brushes and clear water to remove uncured or partly cured mortar smears.

5. It is not the intent of this Work to apply acidic cleaners to remove mortar smears.

B. Remove roof drainage systems to the extent possible and associated hardware adjacent to immediate work area and store during stone repair work. Reinstall when repairs are complete. Where removal of roof drainage is not possible, prevent debris from collecting near or entering roof drains. Clean up debris daily to prevent inadvertent damage to waterproofing and roofing systems.

1. Provide temporary rain drainage during work to direct water away from building.

3.3 STONE REPAIR, GENERAL

A. Repair Appearance Standard: Repaired surfaces are to have a uniform appearance as viewed from 20 feet (6 m) away by Architect.

B. Repair codes in this specification describe repairs shown in the schedules on the A-600 series and the associated repair code key.

3.4 CRACK INJECTION

A. General: Comply with cementitious (or epoxy) crack-filler manufacturer's written instructions.

B. Drill 1/4-inch- (6-mm-) diameter injection holes as follows:

1. Transverse Cracks Less Than 3/8 inch (9 mm) Wide: Drill holes through center of crack at 12 to 18 inches (300 to 500 mm) o.c.
2. Transverse Cracks More Than 3/8 inch (9 mm) Wide: Drill holes through center of crack at 18 to 36 inches (500 to 900 mm) o.c.
3. Drill holes 2 inches (50 mm) deep.

C. Clean out drill holes and cracks with compressed air and water. Remove dirt and organic matter, loose material, sealants, and failed crack repair materials.

D. Place plastic injection ports in drilled holes and seal face of cracks between injection ports with clay or other nonstaining, removable plugging material. Leave openings at upper ends of cracks for air release.

E. Inject cementitious crack filler through ports sequentially, beginning at one end of area and working to opposite end; where possible, begin at lower end of injection area and work upward. Inject filler until it extrudes from adjacent ports. After port has been injected, plug with clay or other suitable material and begin injecting filler at adjacent port, repeating process until all ports have been injected.

F. Clean cementitious crack filler from face of stone before it sets by scrubbing with water.

G. After cementitious crack filler has set, remove injection ports, plugging material, and excess filler. Patch injection holes and surface of cracks as specified in "Stone Patching" Article. Omit patching at crack designations not indicated to receive patching or where indicated on drawings.

- H. Where cracks in stone are called to be adhesive or epoxy injected, provide epoxy crack injection material in lieu of cementitious crack filler.

3.5 CRACK SEALING (Repair Code: CR3)

- A. Where indicated prepare crack for sealing.
 - 1. Remove existing sealant or patching materials where present
 - 2. Widen crack to be not less than 1/4 inch (6 mm) but not greater than 3/8 inch (10 mm) wide.
 - 3. Deepen crack to be not less than 3/4 inch (19 mm) deep.
- B. When widening crack, make cuts neatly and follow line of crack.
- C. Install backer rod and sealant in accordance with Section 079200 "Joint Sealants".

3.6 CRACK STITCHING (CP1, CP2, CP4, CP5)

- A. Where indicated, install helical ties on alternating sides of crack at spacing indicated on drawings.
- B. For helical pins: Determine pin length and installation angle combination required to meet indicated imbed and edge distance. Pre-drill holes in accordance with manufacturer's recommendations. Install pins with manufacturer's setting tools.
- C. Patch helical tie pilot hole as specified in "Stone Patching" Article.

3.7 STONE PINNING (Repair Codes: CP4, CP5)

- A. Where indicated install pins of type, size and orientation noted.
- B. For epoxy set pins: Before applying adhesive, prepare for mechanical anchorage consisting of threaded stainless-steel pin indicated set into pre drilled holes slightly oversized. Remove dust and debris from hole by vacuuming, blowing and mechanical means. Place pins at angle and with imbed indicated; countersunk at least 3/4 inch (19 mm) from exposed face of stone.
- C. After pins are set, remove excess adhesive or other soils from setting. Patch holes as specified in

3.8 FINAL CLEANING

- A. After mortar has fully hardened, thoroughly clean exposed stone surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water applied by low-pressure spray.
 - 1. Do not use metal scrapers or brushes.
 - 2. Do not use acidic or alkaline cleaners.
- B. Clean adjacent nonstone surfaces. Use detergent and soft brushes or cloths.

- C. Clean mortar and debris from roof; remove debris from gutters and downspouts. Rinse off roof and flush gutters and downspouts.
- D. Remove masking materials, leaving no residues that could trap dirt.
- E. Sweep and rake adjacent pavement and grounds to remove mortar and debris. Where necessary, pressure wash pavement surfaces to remove mortar, dust, dirt, and stains.

3.9 FIELD QUALITY CONTROL

- A. Architect's Project Representatives: Architect will assign Project representatives to help carry out Architect's responsibilities at the site, including observing progress and quality of portion of the Work completed. Allow Architect's Project representatives use of lift devices and scaffolding, as needed, to observe progress and quality of portion of the Work completed.
- B. Owner's Construction Representatives: Owner will assign representative to help carry out Owner's responsibilities at the site, including observing progress and quality of portion of the Work completed. Allow Owner's Construction representatives use of lift devices and scaffolding, as needed, to observe progress and quality of portion of the Work completed.
- C. Notify Architect's Project representatives and Owner's Construction representatives in advance of times when lift devices and scaffolding will be relocated. Do not relocate lift devices and scaffolding or cover the Work until Architect's Project representatives have had reasonable opportunity to make inspections and observations of work areas at lift device or scaffold location.

END OF SECTION 040342

SECTION 050371 - HISTORIC DECORATIVE METAL CLEANING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes historic treatment of bronze in the form of cleaning as follows:
 - 1. Cleaning bronze.
 - 2. Removing corrosion.
- B. Related Requirements:
 - 1. Section 013591 "Historic Treatment Procedures" for general historic treatment requirements.
 - 2. Section 050372 "Historic Decorative Metal Repair"
 - 3. Section 050373 "Historic Decorative Metal Refinishing"
 - 4. Section 050374 "Historic Decorative Metal Replication"

1.3 DEFINITIONS

- A. Low-Pressure Spray:
 - 1. Pressure: 100 to 400psi
 - 2. Flow Rate: 4 to 6 gpm
- B. Medium-Pressure Spray:
 - 1. Pressure: 400 to 800 psi.
 - 2. Flow Rate: 4 to 6 gpm.
- C. High-Pressure Spray:
 - 1. Pressure: 800 to 1200 psi.
 - 2. Flow Rate: 4 to 6 gpm.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site. This conference will occur at the State Capitol under the portico. The work will be performed in part at this location and in part at the fabrication facility for the monumental bi-fold bronze doors.

- B. Participants include:
 - 1. Owner
 - 2. Architect
 - 3. Contractor
 - 4. Specialty Bronze Door Contractor
 - 5. Subcontractor
 - a. Party that will be physically performing the cleaning and refinishing of the bronze doors and surrounding areas.
 - 6. Review minutes of Preliminary Historic Treatment Conference that pertain to historic treatment of decorative metal.
 - 7. Review methods and procedures related to historic treatment of bronze including, but not limited to, the following:
 - a. Subcontractor personnel, equipment, and facilities needed to make progress and avoid delays.
 - b. Materials, material application, sequencing, tolerances, and required clearances.
 - c. Fire-protection plan.
 - d. Bronze Historic Treatment Plan.
 - e. Coordination with building occupants.
 - f. Bronze Composition
 - 1) Metallurgy and Spectrogram Testing to Determine Exact Metallurgy
 - 2) Suspected Bronze Metallurgy
 - a) LG3 – Copper 86%, Tin 7%, Zinc 5%, Lead 2%
 - b) LG4 – Copper 87%, Tin 7%, Zinc 3%, Lead 3%
 - g. “Hughes and Rowe Recipes” (1.86)

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include recommendations for product application and use.
 - 2. Include test data substantiating that products comply with requirements.
- B. Shop Drawings:
 - 1. Include plans, elevations, and sections showing locations and extent of refinishing work.
 - 2. Include field-verified dimensions.
- C. Samples for Initial Selection: For the following:
 - 1. A range of each type of exposed finish prepared on bronze of the same alloy matching existing bronze.
- D. Samples for Verification: For the following products in manufacturer's standard sizes unless otherwise indicated, finished as required for use in the Work:
 - 1. Each type of exposed finish prepared on bronze of the same alloy matching existing metal; 6 inches long in least dimension.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For historic treatment specialists with experience in bronze cleaning, including field supervisors and workers and testing service.

B. Bronze Historic Treatment Plan

1.7 QUALITY ASSURANCE

- A. Bronze Historic Treatment Program: Prepare a written, detailed description of materials, methods, equipment, and sequence of operations to be used in the full process of cleaning, refinishing, and coating the bronze to achieve the original color and patination of the bronze doors. historic treatment work, including each process or phase of refinishing bronze, related work, and the protection of surrounding materials and Project site.
1. "Dark Statuary Bronze", a dark brown/black, semi-matt finish, is the design intent.
 2. Finished product shall provide a low-maintenance solution while protecting the doors from UV damage, physical damage, moisture, and other elements.
 3. If materials and methods other than those indicated are proposed for any phase of historic treatment work, add a written description of such materials and methods, including evidence of successful use on comparable projects, and demonstrations to show their effectiveness for this Project.
 4. If Subcontractor performing this work has additional or alternative means and methods for best performing this work and achieving a better result and long-term performance, submit these requests to Architect and Specialty Bronze Door Contractor for approval before beginning any work.
- B. Mockups: Prepare mockups of historic bronze refinishing processes on existing surfaces to demonstrate aesthetic effects and to set quality standards for materials and execution. Prepare mockups so they are inconspicuous or reversible.
1. Cleaning: Cleaned one decorative panel, one rosette, and one flat area on one of the pocket bronze doors and on the monumental bi-fold bronze door using approved method from 050371 Historic Decorative Metal Cleaning.
 2. Refinishing: Refinish one decorative panel, one rosette, and one flat area on one of the pocket bronze doors and on the monumental bi-fold bronze door using one of the approved methods from this specification.
 3. Coating: Coat one decorative panel, one rosette, and one flat area on one of the pocket bronze doors and on the monumental bi-fold bronze door using one of the approved methods from this specification.
 4. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 5. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 FIELD CONDITIONS

- A. Weather Limitations: Proceed with historic treatment of bronze only when existing and forecasted weather conditions are within the environmental limits set by each manufacturer's written instructions and specified requirements.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS

- A. Chemical Cleaner:
 - 1. Oxalic acid or comparable product.
 - 2. Other products may be used if approved with Architect and Specialty Bronze Door Contractor
- B. Abrasive Materials:
 - 1. Abrasive Pads for Bronze Cleaning: Extra-fine bronze wool or plastic abrasive pads.
 - 2. Sponge Blast using Composite Micro-Abrasive Synthetic Sponge, Non-Aggressive

2.2 MISCELLANEOUS MATERIALS

- A. Liquid Strippable Masking Agent: Manufacturer's standard liquid, film-forming, strippable masking material for protecting glass, metal, glazed masonry, and polished stone surfaces from damaging effects of acidic and alkaline cleaners.
- B. Masking Tape: Nonstaining, nonabsorbent material; compatible with chemical solutions being used and substrate surfaces; and that will easily come off entirely, including adhesive.
- C. Other Products: Select materials and methods of use based on the following, subject to approval of a mockup:
 - 1. Previous effectiveness in performing the work involved.
 - 2. Little possibility of damaging exposed surfaces.
 - 3. Consistency of each application.
 - 4. Uniformity of the resulting overall appearance.
 - 5. Do not use products or tools that could do the following:
 - a. Remove, alter, or in any way harm the present condition or future preservation of existing surfaces, including surrounding surfaces not in the Contract.
 - b. Leave an unintended residue on surfaces.

PART 3 - EXECUTION

Note: The means and methods as well as the products chosen for cleaning, refinishing, and coating must be included in the written proposal of the Historic Bronze Treatment Plan for approval by the Architect and the Specialty Bronze Door Contractor.

3.1 PROTECTION

- A. Comply with each manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical solutions from coming into

contact with people, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.

1. Cover adjacent surfaces with materials that are proven to resist chemical solutions being used unless products being used will not damage adjacent surfaces. Use protective materials that are waterproof and UV resistant. Apply masking agents to comply with manufacturer's written instructions. Do not apply liquid masking agent to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.
2. Do not apply chemical solutions during winds of sufficient force to spread them to unprotected surfaces.
3. Neutralize alkaline and acid wastes before disposal.
4. Dispose of runoff from operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.

3.2 HISTORIC DECORATIVE METAL CLEANING, GENERAL

- A. Have historic bronze cleaning performed by a Subcontractor who has submitted a Historic Bronze Treatment Plan approved by the Architect and Specialty Bronze Door Contractor.
- B. Cleaning Appearance Standard: Cleaned surfaces are to have a uniform appearance as viewed from 10 feet away by Architect.
- C. Execution of the Work: In cleaning historic items, disturb them as minimally as possible and as follows:
 1. Remove deteriorated coatings and corrosion.
 2. Sequence work to minimize time before protective coatings are reapplied.
 3. Clean items in place unless otherwise indicated.

3.3 CLEANING

- A. Use only those methods indicated for each type of decorative metal and its location.
 1. Brushes: If using wire brushes, use brushes of same base metal composition as metal being treated. Use brushes that are resistant to chemicals being used.
 2. Spray Equipment: Use spray equipment that provides controlled application at volume and pressure indicated, measured at nozzle. Adjust pressure and volume to ensure that spray methods do not damage surfaces.
 - a. Equip units with pressure gages.
 - b. For chemical-cleaner spray application, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with nozzle having a cone-shaped spray.
 - c. For heated water-spray application, use equipment capable of maintaining temperature between 140 and 160 deg F.

3. Uniformity: Perform each cleaning method in a manner that results in uniform coverage of all surfaces, including corners, contours, and interstices, and that produces an even effect without streaks or damaging surfaces.
 4. Protection: After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks.
- B. Chemical Cleaning: Apply chemical cleaner to surfaces according to chemical-cleaner manufacturer's written instructions.
1. Wet surface with hot water applied by low-pressure spray.
 2. Apply cleaner to surface in two applications by hand.
 3. Repeat cleaning procedure where needed if required to produce cleaning effect established by mockup. Do not repeat more than once.
- C. Cleaning with Abrasive Pads: Clean surfaces to remove dirt by light rubbing with abrasive pads and water. Rinse with cold water to remove residue. Apply rinse by low-pressure spray
- D. Cleaning by Abrasive Blasting: Clean surfaces to remove dirt by dry blasting with specified blasting abrasive, such as sponge blast products, at pressure and distance from surface indicated below. Rinse with cold water, low-pressure spray to remove residue

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections. Allow inspectors use of lift devices and scaffolding, as needed, to perform inspections.
- B. Notify testing agency in advance of times when lift devices and scaffolding will be relocated. Do not relocate lift devices and scaffolding until inspectors have had reasonable opportunity to inspect work areas at locations of lift devices or scaffolding.
- C. Manufacturer's Field Service: Engage chemical-cleaner and factory-authorized service representatives for consultation and Project-site inspection and to provide on-site assistance when requested by Architect.

3.5 REMOVAL, DISMANTLING, AND REINSTALLATION

- A. Perform removal, dismantling, and reinstallation work as required in Section 050372 "Historic Decorative Metal Repair."

3.6 HISTORIC DECORATIVE METAL CLEANING SCHEDULE

- A. Cleaning of Bronze Grille and Surrounding Trim.
 1. Perform work in the field. Detach all pieces before performing cleaning.
- B. Cleaning of Bronze Pilaster Covers
 1. Perform work in the field. Detach all pieces before performing cleaning.
- C. Treatment of Bronze Interior Pocket Panels
 1. Perform work in the field.
- D. Treatment of Bronze Door Surrounding Frames
 1. Perform work in the field.

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- E. Cleaning of Bronze Doors
 - 1. Perform work in the off-site fabrication shop.

END OF SECTION 050371

SECTION 050373 - HISTORIC DECORATIVE METAL REFINISHING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes historic treatment of bronze in the form of refinishing bare metal surfaces as follows:
1. Refinishing bronze in place.
 2. Removing and dismantling bronze for shop refinishing; reinstalling refinished bronze.
 3. Protective coatings.
- B. Related Requirements:
1. Section 013591 "Historic Treatment Procedures" for general historic treatment requirements.
 2. Section 050371 "Historic Decorative Metal Cleaning" for cleaning historic bronze.
 3. Section 050374 "Historic Decorative Metal Replication" for replicating historic bronze.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site. This conference will occur at the State Capitol under the portico. The work will be performed in part at this location and in part at the fabrication facility for the monumental bi-fold bronze doors.
- B. Participants include:
1. Owner
 2. Architect
 3. Contractor
 4. Specialty Bronze Door Contractor
 5. Subcontractor
 - a. Party that will be physically performing the cleaning and refinishing of the bronze doors and surrounding areas.
 6. Review minutes of Preliminary Historic Treatment Conference that pertain to historic treatment of decorative metal.
 7. Review methods and procedures related to historic treatment of bronze including, but not limited to, the following:
 - a. Subcontractor personnel, equipment, and facilities needed to make progress and avoid delays.
 - b. Materials, material application, sequencing, tolerances, and required clearances.
 - c. Fire-protection plan.
 - d. Bronze Historic Treatment Plan.
 - e. Coordination with building occupants.
 - f. Bronze Composition
 - Metallurgy and Spectrogram Testing to Determine Exact Metallurgy

- Suspected Bronze Metallurgy
 - LG3 – Copper 86%, Tin 7%, Zinc 5%, Lead 2%
 - LG4 – Copper 87%, Tin 7%, Zinc 3%, Lead 3%
- g. “Hughes and Rowe Recipes” (1.86)

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include recommendations for product application and use.
 - 2. Include test data substantiating that products comply with requirements.
- B. Shop Drawings:
 - 1. Include plans, elevations, and sections showing locations and extent of refinishing work.
 - 2. Include field-verified dimensions.
- C. Samples for Initial Selection: For the following:
 - 1. A range of each type of exposed finish prepared on bronze of the same alloy matching existing bronze.
- D. Samples for Verification: For the following products in manufacturer's standard sizes unless otherwise indicated, finished as required for use in the Work:
 - 1. Each type of exposed finish prepared on bronze of the same alloy matching existing metal; 6 inches long in least dimension.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For historic treatment specialists with experience in bronze refinishing and coating, including field supervisors and workers and testing service.
- B. Bronze Historic Treatment Plan

1.5 QUALITY ASSURANCE

- A. Bronze Historic Treatment Program: Prepare a written, detailed description of materials, methods, equipment, and sequence of operations to be used in the full process of cleaning, refinishing, and coating the bronze to achieve the original color and patination of the bronze doors. historic treatment work, including each process or phase of refinishing bronze, related work, and the protection of surrounding materials and Project site.
 - 1. “Dark Statuary Bronze”, a dark brown/black, semi-matt finish, is the design intent.
 - 2. Finished product shall provide a low-maintenance solution while protecting the doors from UV damage, physical damage, moisture, and other elements.
 - 3. If materials and methods other than those indicated are proposed for any phase of

historic treatment work, add a written description of such materials and methods, including evidence of successful use on comparable projects, and demonstrations to show their effectiveness for this Project.

4. If Subcontractor performing this work has additional or alternative means and methods for best performing this work and achieving a better result and long term performance, submit these requests to Architect and Specialty Bronze Door Contractor for approval before beginning any work.
- B. Mockups: Prepare mockups of historic bronze refinishing processes on existing surfaces to demonstrate aesthetic effects and to set quality standards for materials and execution. Prepare mockups so they are inconspicuous or reversible.
1. Cleaning: Cleaned one decorative panel, one rosette, and one flat area on one of the pocket bronze doors and on the monumental bi-fold bronze door using approved method from 050371 Historic Decorative Metal Cleaning.
 2. Refinishing: Refinish one decorative panel, one rosette, and one flat area on one of the pocket bronze doors and on the monumental bi-fold bronze door using one of the approved methods from this specification.
 3. Coating: Coat one decorative panel, one rosette, and one flat area on one of the pocket bronze doors and on the monumental bi-fold bronze door using one of the approved methods from this specification.
 4. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 5. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Pack, deliver, and store bronze items in suitable packs, heavy-duty cartons, or wooden crates; surround with sufficient packing material to ensure that products are not deformed, cracked, or otherwise damaged.
- B. Store bronze inside a well-ventilated area protected from weather, moisture, soiling, abrasion, extreme temperatures, and humidity.
- C. Protect strippable protective covering on bronze from exposure to sunlight and high humidity, except to extent necessary for the period of bronze installation.

1.7 FIELD CONDITIONS

- A. Weather Limitations: Proceed with historic treatment of bronze only when existing and forecasted weather conditions are within environmental limits set by each manufacturer's written instructions and specified requirements.

PART 2 - PRODUCTS

Note: This is a full list of potential products to be used in the cleaning, refinishing, and coating of

the historic and newly replicated bronze doors and surrounds. The means and methods as well as the products chosen must be included in the written proposal of the Historic Bronze Treatment Plan for approval by the Architect and the Specialty Bronze Door Contractor.

2.1 PREPARATORY CLEANING MATERIALS

A. Chemical Cleaners

1. Oxalic acid or comparable product.
2. Other products may be used if approved with Architect and Specialty Bronze Door Contractor

B. Abrasive Materials:

1. Abrasive Pads for Bronze Cleaning: Extra-fine bronze wool or plastic abrasive pads.
2. Sponge Blast using Composite Micro-Abrasive Synthetic Sponge, Non-Aggressive

2.2 REFINISHING MATERIALS

A. Chemical:

1. Liver of Sulfate, water
 - a. Darkening Patina by Sculpt Nouveau
2. Potassium Sulfate, water
3. Ferric nitrate, sodium thiosulphate, water
 - a. Applied in combination with heating bronze using a blow torch

2.3 PROTECTIVE COATING MATERIALS

- A. Wax Coating: Inert, high-melting-point wax or wax blend. Product type should be or be similar to Renaissance Wax by Picreator Enterprises and applied while heating bronze surfaces with a blow torch.
- B. Lacquer: Incralac
- C. Acrylic Polyurethane

2.4 MISCELLANEOUS MATERIALS

- A. Liquid Strippable Masking Agent: Manufacturer's standard liquid, film-forming, strippable masking material for protecting glass, metal, glazed masonry, and polished stone surfaces from damaging effects of acidic and alkaline cleaners.
- B. Masking Tape: Non-staining, nonabsorbent material; compatible with chemical solutions being used and substrate surfaces; and that will easily come off entirely, including adhesive.
- C. Other Products: Select materials and methods of use based on the following, subject to approval of a mockup:
 1. Previous effectiveness in performing the work involved.

2. Little possibility of damaging exposed surfaces.
3. Consistency of each application.
4. Uniformity of the resulting overall appearance.
5. Do not use products or tools that could do the following:
 - a. Remove, alter, or in any way harm the present condition or future preservation of existing surfaces, including surrounding surfaces not in the Contract.
 - b. Leave an unintended residue on surfaces.

2.5 FINISHES, GENERAL

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

Note: The means and methods as well as the products chosen for cleaning, refinishing, and coating must be included in the written proposal of the Historic Bronze Treatment Plan for approval by the Architect and the Specialty Bronze Door Contractor.

3.1 PROTECTION

- A. Comply with each manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical solutions from coming into contact with people, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.
 1. Cover adjacent surfaces with materials that are proved to resist chemical solutions being used unless products being used will not damage adjacent surfaces. Use protective materials that are waterproof and UV resistant. Apply masking agents to comply with manufacturer's written instructions. Do not apply liquid masking agent to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.
 2. Do not apply chemical solutions during winds of enough force to spread them to unprotected surfaces.
 3. Neutralize alkaline and acid wastes before disposal.
 4. Dispose of runoff from operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.

3.2 HISTORIC DECORATIVE METAL REFINISHING, GENERAL

- A. Refinishing Appearance Standard: Refinished surfaces are to have a uniform appearance as viewed from 20 feet away by Architect.
- B. Execution of the Work: In refinishing historic items, disturb remaining existing work as minimally as possible and as follows:
 - 1. Remove dirt and corrosion.
 - 2. Sequence work to minimize time before protective coatings are reapplied.
 - 3. Refinish items in place unless otherwise indicated and retain as much original finish as possible and according to required appearance.
 - 4. Make historic treatment of materials reversible whenever possible.
- C. Refinishing Bronze Item: Remove existing metal finishes on all exterior and interior items unless otherwise indicated, including patinated finishes, and apply new, specified finishes. The intent of the refinishing work is to create consistency in color, patina, and finish throughout all bronze surfaces.

3.3 PREPARATORY CLEANING

- A. Perform preparatory cleaning before performing refinishing work. Use only those methods indicated for each type of decorative metal and its location.
 - 1. Brushes: If using wire brushes, use brushes of same base metal composition as metal being treated. Use brushes that are resistant to chemicals being used.
 - 2. Spray Equipment: Use spray equipment that provides controlled application at volume and pressure indicated, measured at nozzle. Adjust pressure and volume to ensure that spray methods do not damage surfaces.
 - a. Equip units with pressure gauges.
 - b. For chemical-cleaner spray application, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with nozzle having a cone-shaped spray.
 - c. For water-spray application, use fan-shaped spray that disperses water at an angle of 25 to 50 degrees.
 - 3. Uniformity: Perform each cleaning method in a manner that results in uniform coverage of all surfaces, including corners, contours, and interstices, and that produces an even effect without streaks or damaging surfaces.
 - 4. Protection: After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks.
- B. Chemical Cleaning: Apply chemical cleaner to surfaces according to chemical-cleaner manufacturer's written instructions.
 - 1. Wet surface with hot water applied by low-pressure spray.
 - 2. Apply cleaner to surface in two applications by hand.
- C. Cleaning with Abrasive Pads: Clean surfaces to remove dirt by light rubbing with abrasive

pads and water or approved cleaners. Do not rinse ferrous metals with water; wipe with damp cloths to remove residue.

- D. Cleaning by Abrasive Blasting: Clean surfaces to remove dirt by dry blasting with specified blasting abrasive at pressure and distance from surface indicated below. Do not rinse ferrous metals with water; wipe with damp cloths to remove residue.

1. Pressure and Distance from

Surface:

- a. As established by mockup.

3.4 PROTECTIVE COATING

Note: The means and methods as well as the products chosen for cleaning, refinishing, and coating must be included in the written proposal of the Historic Bronze Treatment Plan for approval by the Architect and the Specialty Bronze Door Contractor.

Continuity Testing, a process of running electrical current through bronze to locate “pitting” within coating, shall be performed after completion of the coating process. If any pitting is identified, another full coating shall be applied.

- A. Wax Coating: Inert, high-melting-point wax or wax blend. Product type should be or be similar to Renaissance Wax by Picreator Enterprises and applied while heating bronze surfaces with a blow torch .
1. Apply uniform wax coating to surface, ensuring that wax coverage is complete, including recesses. Apply second wax coating following the same process.
 2. Inspect surface and repair holidays by reheating and applying more wax.
 3. Buff waxed surface to a slight shine with a lint-free cloth after wax has cooled to a hazy appearance.
- B. Protective Lacquer Coating: Pretreat cleaned copper-alloy surfaces with copper-alloy corrosion inhibitor, wipe off excess with ethanol-saturated rag, and allow surface to dry. If fresh corrosion appears, repeat process. Apply lacquer coating to produce uniform appearance without runs or other surface imperfections.
1. Clean and dry surface being coated.
 2. Apply two uniform coats by air-spray method according to manufacturer's written instructions, with interim drying between coats.
 3. Apply coating to a total dry film thickness of 1 mil.
 4. Protect coated surface from contamination until fully cured.

3.5 FIELD QUALITY CONTROL

- A. Before performing any bronze cleaning or refinishing work, Subcontractor shall perform a spectrogram test to measure the metallurgy of the bronze for best determining the appropriate methods for cleaning and refinishing the bronze to a “Dark Statuary Finish” as stated in “The

Colouring , Bronzing and Patination of Metals by Hughes and Rowe, 1982.

- B. Testing Agency: Engage a qualified testing agency to perform tests and inspections. Allow inspectors use of lift devices and scaffolding, as needed, to perform inspections.
- C. Notify testing agency in advance of times when lift devices and scaffolding will be relocated. Do not relocate lift devices and scaffolding until inspectors have had reasonable opportunity to inspect work areas at locations of lift devices or scaffolding.

3.6 DISMANTLING, REPAIR, AND REINSTALLATION

- A. Perform dismantling, repair, and reinstallation work as required in Section 024119 "Selective Demolition".

3.7 HISTORIC BRONZE REFINISHING SCHEDULE

- A. Treatment of Bronze Doors, Bronze Surrounds, and Bronze Transom Grille
 - 1. Perform all work for bronze adhered to building in the field. Perform all work for bronze that can be detached from the building either in the field or in the fabrication facility.
 - 2. Cleaning: Chemical cleaning or (soft) Abrasive Sponge Blasting.
 - 3. Refinishing: The desired finish for all bronze surfaces is Dark Statuary Bronze, the most historically appropriate finish, more somber in tone than Light or Medium Statuary Bronze.
 - a. **FOR REFERENCE ONLY:** According to Hughes and Rowe, pg. 87, and the research performed on the recipe of bronze present at typical Gorham doors of this period, Recipe 1.86 is the desired finish.
 - 1.86 Dark brown/black, Semi-matt
 - Original Chemical Formula:
 - Ferric nitrate, 50gm
 - Sodium thiosulphate, 6gm
 - Water, 1 litre
 - Torch technique
 - Original Finishing Process:
 - The object is heated with a blow torch and the solution dabbed onto the surface with a cloth. The surface quickly darkens to a dark brown/black and the variegation that tends to occur can be evenly controlled by careful dabbing. When treatment is complete, the object is allowed to cool and dry thoroughly and may then be wax finished.
 - b. Actual Finishing Process:

- Subcontractor to submit Historic Bronze Treatment Plan to be approved by Architect and Specialty Bronze Door Contractor, including mockups to be performed. Once mockups are completed, Architect and Specialty Bronze Door Contractor will direct Subcontractor on the desired process for cleaning, refinishing, and coating all bronze surfaces.
 - Exterior exposed bronze surfaces have developed a “living patina” over time and have likely been cleaned/refinished in an inappropriate manner. Testing for metallurgy composition must be performed in combination with mockups to determine how to best return bronze back to its historically appropriate finish, stated above.
 - Obstructed and interior portions of the original bronze surfaces may serve as a guide for refinishing the original patina for the exposed surfaces that are no longer original in color.
4. Protective Finish Coating:
- Options for coating are multiple, including torched wax, lacquers such as Intralac, acrylic polyurethane, and others. Coating process, number of coats, and products used shall be recommended by Subcontractor and approved by Owner, Architect, Specialty Bronze Door Contractor depending on the desired level of maintenance and overall aesthetic desired.
 - Subcontractor to submit Historic Bronze Treatment Plan to be approved by Architect and Specialty Bronze Door Contractor, including mockups to be performed. Once mockups are completed, Architect and Specialty Bronze Door Contractor will direct Subcontractor on the desired process for cleaning, refinishing, and coating all bronze surfaces.

END OF SECTION 050373

SECTION 050374 - HISTORIC DECORATIVE METAL REPLICATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Replication and installation of historic bronze items and whole assemblies.

B. Related Requirements:

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

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review minutes of Preliminary Historic Treatment Conference that pertain to replication and installation of historic bronze item(s).
2. Review methods and procedures related to replication and installation of historic bronze items and whole assemblies including, but not limited to, the following:
 - a. Historic treatment specialist's personnel, equipment, and facilities needed to make progress and avoid delays.
 - b. Materials, material application, sequencing, tolerances, and required clearances.
 - c. Bronze historic treatment program.
 - d. 3D scanning of existing components
 - e. Casting
 - f. Connections and Hardware

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:

1. Include plans, elevations, and sections showing locations and extent of replication work, with enlarged details of replacement parts indicating materials, profiles, methods of attachment, accessory items, and finishes.
2. Include field-verified dimensions and the following:
 - a. Full-size patterns with complete dimensions for new bronze items and their jointing, showing relationship of existing items to new items.
 - b. Templates and directions for installing anchor bolts and other anchorages.
 - c. Identification of each new bronze item and component and its location on the structure in annotated plans and elevations.
 - d. Provisions for expansion, weep holes, and conduits as required for each location and exposure.

- e. Provisions for sealant joints if required.
- C. Samples for Initial Selection: For the following:
- 1. Each type of bronze item and component with applied finishes.
 - 2. Sealant materials.
 - 3. Hardware
 - 4. Accessories to verify color selection.
- D. Samples for Verification: Actual sample of finished products for the following products in manufacturer's standard sizes unless otherwise indicated:
- 1. Each type of bronze to be used for replacing existing or missing bronze; 6 inches long in least dimension or whole item.
 - a. Patterns for Casting: Before casting items, submit the actual patterns from which molds will be made for casting. Package and ship to prevent loss or damage or make patterns available for inspection by Architect at fabrication plant.
 - b. Casting Samples: For castings, provide one of each shape, color, and texture of component, suitable and ready for installation. Make this submittal after acceptance of patterns for casting.
 - 2. Fittings and brackets.
 - 3. Each type of exposed connection between components. Show method of finishing components at connections.
 - 4. Sealant materials.
 - 5. Accessories: Each type of anchor, accessory, and miscellaneous support in required finishes.
- 1.4 INFORMATIONAL SUBMITTALS
- A. Qualification Data: For historic treatment specialists with experience in bronze replication, including field supervisors and workers and testing service.
 - B. Bronze Historic Treatment Program: For replicating historic decorative metal items and whole assemblies.
- 1.5 MAINTENANCE MATERIAL SUBMITTALS
- A. Extra Stock Material: Furnish extra materials to Owner that match products installed and that are packaged with protective covering for storage and identified with labels describing contents, including material, finish, source, and location on or in building.
 - 1. Cast-Metal Replications: Five rosettes for bronze doors, additional.
 - 2. Hardware: Furnish at least three sets of additional mechanical hardware replacements for all hardware that is being replaced.
 - B. Molds for Castings: On completion of manufacturing of cast components, deliver one unused mold of each shape and size of component to Project site. Deliver to a location and at a time determined by Owner, to become property of Owner.

1. Deliver molds carefully packed, protected from dirt, moisture, and breakage so as to arrive in usable, undamaged condition and enable long-term storage and possible future use.

1.6 QUALITY ASSURANCE

- A. Historic Treatment Specialist Qualifications: A Subcontract is deemed qualified by the Architect and the Specialty Monumental Bronze Door Contractor in the ability to engage in historic bronze fabrication and installation. Repair specialist to be experienced in forge welding. Experience in torch or arc welding and installing and finishing new decorative metalwork is insufficient experience for historic bronze replication work.
- B. Bronze Historic Treatment Program: Prepare a written, detailed description of materials, methods, equipment, and sequence of operations to be used for historic treatment work, including each process or phase of replicating bronze, related work, and the protection of surrounding materials and Project site.
 1. If materials and methods other than those indicated are proposed for any phase of historic treatment work, add a written description of such materials and methods, including evidence of successful use on comparable projects, and demonstrations to show their effectiveness for this Project.

1.7 MOCKUPS

- A. Prepare mockups of historic bronze replication and installation processes to demonstrate aesthetic effects, to set quality standards for materials and execution, and to set quality standards for fabrication and installation.
 1. Replicated Bronze Item: One rosette.
 2. Cast-Metal Items: Submit patterns, models, or plaster castings made from existing decorative metal for each replacement casting required.
 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Owner specifically approves such deviations by Change Order.
 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Pack, deliver, and store bronze items in suitable packs, heavy-duty cartons, or wooden crates; surround with sufficient packing material to ensure that products are not deformed, cracked, or otherwise damaged.
- B. Store bronze inside a well-ventilated area, away from uncured concrete and masonry and protected from weather, moisture, soiling, abrasion, extreme temperatures, and humidity.
- C. Protect strippable protective covering on bronze from exposure to sunlight and high humidity, except to extent necessary for period of decorative metal installation.

1.9 FIELD CONDITIONS

- A. Weather Limitations: Proceed with replication and installation of historic bronze items only when existing and forecasted weather conditions are within environmental limits set by each manufacturer's written instructions and specified requirements.

PART 2 - PRODUCTS

2.1 METAL MATERIALS

- A. General: Provide bronze materials made of alloys, forms, and types that match existing metals and have the ability to receive finishes matching existing finishes unless otherwise indicated. Exposed-to-view surfaces exhibiting imperfections inconsistent with existing materials are unacceptable.
- B. Source Limitation for Replacement Cast Materials: Obtain castings for replication of bronze items from single source from single manufacturer with resources to provide materials of consistent quality in appearance and physical properties.
- C. Copper Alloys, Bronze: Copper alloy designated below for each form required:
1. Research by the Architect indicates the existing bronze composition is similar to LG3 (copper 86%, tin 7%, zinc 5%, lead 2%) or LG4 (copper 87%, tin 7%, zinc 3%, lead 3%) as defined in The Coloring, Bronzing, and Patination of Metals by Hughes and Rowe.
 2. Testing shall be completed to uncover the metallurgy composition of the existing bronze.

2.2 PROTECTIVE COATING MATERIALS

- A. Wax Coating: Inert, high-melting-point wax or wax blend. Product type should be or be similar to Renaissance Wax by Picreator Enterprises and applied to torched bronze surfaces. Subcontractor can only substitute another coating unless given permission by the Architect and Specialty Bronze Door Consultant.
- B. Other Products: Select materials and methods of use based on the following, subject to approval of a mockup:
1. Previous effectiveness in performing the work involved.
 2. Little possibility of damaging exposed surfaces.
 3. Consistency of each application.
 4. Uniformity of the resulting overall appearance.
 5. Do not use products or tools that could do the following:
 - a. Remove, alter, or in any way harm the present condition or future preservation of existing surfaces, including surrounding surfaces not in the Contract.
 - b. Leave an unintended residue on surfaces.

2.3 METAL FABRICATION

- A. Fabricate bronze items and components in sizes and profiles to match existing historic bronze, with accurate curves, lines, and angles. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
- B. Provide uniform, neat seams with minimum exposure of welds, brazing, solder, and sealant.
- C. Provide rebates, lugs, and brackets necessary to assemble components and to attach to existing work. Drill and tap for fasteners. Use concealed fasteners where possible; use exposed fasteners to match existing work.
- D. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed joints of flux, and dress exposed and contact surfaces.
 - 1. Use materials and methods that match color of base metal, minimize distortion, and develop maximum strength and corrosion resistance.
 - 2. Remove flux immediately.
 - 3. At exposed connections, match contours of adjoining surfaces, and finish exposed surfaces smooth and blended so no roughness shows after finishing.
- E. Fabricate castings free of warp, cracks, blowholes, or other defects that impair strength or appearance. Grind, wire brush, sandblast, and buff castings to remove seams, gate marks, casting flash, and other casting marks.
 - 1. Finish castings to match existing bronze.

2.4 GENERAL FINISH REQUIREMENTS

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Matching: Refinishing of historic bronze is to be performed in tandem with the refinishing of the newly replicated bronze components so as to be best match in color, texture, and overall character.

PART 3 - EXECUTION

3.1 HISTORIC DECORATIVE METAL REPLICATION, GENERAL

- A. Replication Appearance Standard: Replicated surfaces are to have a uniform appearance as viewed from 20 ft. away by Architect.
- B. Execution of the Work: In replicating historic items, disturb remaining existing work as minimally as possible and as follows:

1. Sequence work to minimize time before protective coatings are applied.
 2. Replace or reproduce historic items where indicated or scheduled.
 3. Make installation of replicated items reversible whenever possible.
- C. Replicate Bronze Item: Where indicated, duplicate existing items with new materials matching existing materials and features.
1. Design heavily deteriorated or missing features of historic decorative metal with compatible materials, using surviving prototypes to create patterns or molds for duplicating.
 2. Do not use substitute materials unless otherwise indicated.
- 3.2 INSTALLATION
- A. Installation of newly replicated bronze parts to be installed by Specialty Bronze Door Contractor.
- 3.3 HISTORIC DECORATIVE METAL SCHEDULE
- A. Missing Rosette.
1. Replicate new bronze rosette with shop-fabricated assembly matching design of existing rosette.
 2. Bronze Finish: Match existing composition of bronze using spectrogram test. Match finish using adjusted method for achieving best match between historic bronze and newly cast bronze components.
- B. Missing Interior Header Cover
1. Replicate new interior header cover trim piece using adjacent connection points and other bronze cover pieces as a guide.
 2. Bronze Finish: Match existing composition of bronze using spectrogram test. Match finish using adjusted method for achieving best match between historic bronze and newly cast bronze components.
- C. Additional Bronze Components
1. Metal work at jambs, heads, transom, or grille that has deteriorated beyond the point of refinishing/repair shall be replicated to practically like new condition and shall be replaced and finished to match adjacent restored areas.
 2. Any additional bronze components that are discovered to be in poor condition or missing should be reported to the Architect and the Specialty Door Contractor for direction on replication.

END OF SECTION 050374

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Silicone joint sealants (Non-staining).
 - 2. Urethane joint sealants.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review minutes of Preliminary Historic Treatment Conference that pertain to stone historic treatment and repair.
 - 2. Review methods and procedures related to repairing historic stone masonry including, but not limited to, the following:
 - a. Verify historic treatment specialist's personnel, equipment, and facilities needed to make progress and avoid delays.
 - b. Materials, material application, sequencing, tolerances, and required clearances.
 - c. Quality-control program.
 - d. Fire-protection plan.
 - e. Coordination with building occupants.

1.4 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Samples for Verification: For each kind and color of joint sealant required, provide a minimum of five Samples (per colors as selected in the Samples for Initial Selection) in the field as directed by the Architect in 12 inch long strips.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For historic treatment specialists with experience in bronze replication, including field supervisors and workers and testing service.
- B. Product Test Reports: For each kind of joint sealant, for tests performed by manufacturer and witnessed by a qualified testing agency.
- C. Preconstruction Laboratory Test Reports: From sealant manufacturer, indicating the following:
 - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
 - 2. Interpretation of test results and written recommendations for primers and substrate preparation are needed for adhesion.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Contractor shall have a minimum of five (5) years of experience in installation of similar sealants on projects of similar size. The Contractor shall be approved by the Manufacturer of the sealant and written evidence of this approval shall be submitted to the Architect.
- B. Product Validation: Sealants must be tested and validated in accordance with the Sealant, Waterproofing, Restoration Institute's (SWRI) Product Validation. Manufacturer must provide up to date Product Validation from SWRI.
- C. Product Testing: Test joint sealants using a qualified testing agency.
 - 1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated and independent of the manufacturer
- D. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

1.7 PRECONSTRUCTION TESTING

- A. Preconstruction Laboratory Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
 - 1. Adhesion Testing: Use ASTM C 794 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
 - 2. Stain Testing: Use ASTM C 1248 to determine stain potential of sealant when in contact with stone and masonry substrates.
 - 3. Submit manufacturer's recommended number of pieces (minimum three each) of each type of stone material(s) to be supplied for the Work.

4. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
5. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures, including use of specially formulated primers. Retest with corrective recommendations.

B. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates as follows:

1. Locate test joints as directed by Architect.
2. Conduct field tests for each kind of sealant and joint substrate, including each variety of stone both existing and provided as part of the Work.
3. Notify Architect and Construction Representative seven days in advance of dates and times when test joints will be erected.
4. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.
 - a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1.1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
 - 1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
5. Report whether sealant failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
6. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

1.8 FIELD CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.9 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period. The Contractor shall warrant the workmanship on the sealant for a five-year (5) period

and that any corrective work (including all labor and material) necessary to maintain the watertight performance shall be performed at no cost to the Owner.

1. Warranty Period: Two (2) years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period. The Sealant Manufacturer shall warrant their sealant will provide a watertight weatherseal and will not discolor or cause substrates to discolor or change their appearance due to fluid migration for ten (10) years. Warranty to include cost of replacement sealant material and cost of all labor to remove and replace sealant. Sealant Manufacturer or authorized representative to perform required testing (including field adhesion tests) to satisfy requirements for Manufacturer's warranty.
 1. Warranty Period: Ten (10) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Stain-Test-Response Characteristics: Where sealants are specified to be non-staining to porous substrates, provide testing according to ASTM C 1248 with porous joint substrates to be included in Project.
- C. Products utilized are to meet the following testing criteria:
 - a. ASTM C661 – Indentation Hardness of Elastomeric Type Sealants, shore hardness of 35 minimum for horizontal traffic applications.
 - b. ASTM C719 – Adhesion & Cohesion of Elastomeric Joint Sealants Under Cyclic Movement.
 - c. ASTM C793 – Weathering Standard Test Method for Effects of Laboratory-accelerated Weathering on Elastomeric Joint Sealants.
- D. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

- A. Silicone, S, NS, 100/50, NT: Single-component, nonsag, plus 100 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.
 1. Subject to compliance with requirements and preconstruction testing, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Dow Corning Corporation: 790 Silicone Building Sealant

- b. GE Construction Sealants; Momentive Performance Materials Inc.: SilPruf LM SCS2700
 - c. Pecora Corporation: 890
 - d. Sika Corporation; Joint Sealants: SikaSil-C 990
 - e. Tremco Incorporated: Spectrem 800
 - f. Tremco Incorporated: Spectrem 1
 - g. Or approved equal
- B. Silicone, S, NS, 50, T: Single-component, nonsag, plus 50 percent and minus 50 percent movement capability, traffic- and nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Uses T.
- 1. Subject to compliance with requirements and preconstruction testing, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Dow Corning Corporation: 795
 - b. Tremco Incorporated: Spectrem 2
 - c. Or approved equal
- C. Silicone, S, NS, 50, NT: Single-component, nonsag, plus 50 percent and minus 50 percent movement capability, traffic- and nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Uses NT.
- 1. Subject to compliance with requirements and preconstruction testing, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. GE Construction Sealants; Momentive Performance Materials Inc.: SilPruf NB SCS9000
 - b. Dow Corning Corporation: 756 SMS
 - c. Dow Corning Corporation: 795
 - d. Tremco Incorporated: Spectrem 3 and Spectrem 4
 - e. Sika Corporation: Sikasil WS-295
 - f. Or approved equal

2.3 URETHANE JOINT SEALANTS

- A. Urethane, S, NS, 100/50, NT: Single-component, nonsag, plus 100 percent and minus 50 percent movement capability, nontraffic-use, urethane joint sealant; ASTM C 920, Type S, Grade NS, Class 100/50, Uses NT.
- 1. Subject to compliance with requirements and preconstruction testing, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Sika Corporation: Sikaflex 15LM
 - b. Tremco Incorporated: Vulkem 921
 - c. Or approved equal
- B. Urethane, M, NS, 50, NT: Multicomponent, nonsag, plus 50 percent and minus 50 percent movement capability nontraffic-use, urethane joint sealant; ASTM C 920, Type M, Grade NS, Class 50, Use NT.

1. Subject to compliance with requirements and preconstruction testing, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Pecora Corporation: Dynatrol II
 - b. Tremco Incorporated: Dymeric 240
 - c. Or approved equal

2.4 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.
- D. Expansion Joint Filler: Pre-formed, closed-cell polyethylene foam filler strips suitable for exterior traffic-bearing surfaces at-grade.

2.5 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer for adhesion of sealant to joint substrates indicated.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 GENERAL

- A. Comply with installation recommendations in ASTM C1193 - Standard Guide for Use of Joint Sealants.

3.2 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing or an approved mechanical abrading process (approved by Architect prior to work commencing), or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry (including Stone).
 - c. Previous Repairs of Mortar Compound Patching.
 - d. Wood.
 - 3. Remove laitance and form-release agents from concrete.
 - 4. Clean nonporous joint substrate surfaces that have not previously received sealant with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - 5. For copper metal that has been previously sealed against, clean to bright metal.
- B. Joint Priming: Prime all joint. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.4 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Apply primer to all joints unless specifically not recommended by sealant manufacturer.
- F. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- G. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide joint profile to match the existing adjacent mortar joint tooling or concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

3.5 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
 - 1. Extent of Testing: Test completed and cured sealant joints as follows:
 - a. Perform 1 test for each kind of sealant and substrate of joint length as directed by Architect in the field. Existing and new stone provided as part of the Work shall be considered different, even when the type provided is the same.

- b. Perform one test for each 500 feet (150 m) of joint length thereafter. Perform a minimum of two additional tests for each failed test result.
 2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
 3. Inspect tested joints and report on the following:
 - a. Whether sealants filled joint cavities and are free of voids.
 - b. Whether sealant dimensions and configurations comply with specified requirements.
 - c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion complies with sealant manufacturer's field-adhesion hand-pull test criteria.
 4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant material, sealant configuration, and sealant dimensions.
 5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.
- B. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.6 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.7 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.8 JOINT-SEALANT SCHEDULE

- A. General:
 1. Products provided must have passed lab and field preconstruction testing and be compatible with adjacent materials.

2. Joints at or above the floor of the portico having generally been previously sealed with silicone joint sealants.
3. Sealants will be applied to existing surfaces porous surfaces to remain (concrete and multiple varieties of stone) as well as porous substrates (stone and concrete) provided as part of the Work.

B. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces JS-1.

1. Joint Locations:
 - a. Joints between stone pavers and other materials.
 - b. Other joints as indicated on Drawings.
2. Joint Sealant: Silicone, S, NS, 50, T.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

C. Joint-Sealant Application: Exterior joints in vertical and non-traffic horizontal surfaces between different materials and exterior joints that have previously received silicone sealant JS-2.

1. Joint Locations:
 - a. Joints at perimeter of metal doors.
 - b. Joints at perimeter of wood doors and windows.
 - c. Joints at the perimeter of metal transom.
 - d. Other joints as indicated on Drawings.
2. Joint Sealant: Silicone, nonstaining, S, NS, 50 or 100/50, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

D. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal non-traffic surfaces that have not previously received silicone sealant JS-3.

1. Joint Locations:
 - a. Joints between bronze or other metal and masonry (where not previously sealed with silicone).
 - b. Other joints as indicated on Drawings.
2. Joint Sealant: Urethane, S or M, NS, 100/50, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

E. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal non-traffic surfaces that have previously received silicone sealant JS-4.

1. Joint Locations:
 - a. Joints between bronze or other metal and masonry (where previously sealed with silicone).
 - b. Other joints as indicated on Drawings.
2. Joint Sealant: Silicone, nonstaining, S, NS, 100/50, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 079200

SECTION 080311.1 – HISTORIC TREATMENT OF BRONZE DOORS – SLIDING POCKET DOORS

PART 1 - GENERAL

1. RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 sections, apply to work of this section.

2. SPECIAL CONDITIONS:

- a. Specialty Bronze Door Contractor: The principal work required in this section shall be performed by a firm with special skills, knowledge, and experience in performing work on monumental bronze doors. See 00 4513 “Pre-Qualification Form for Bronze Door Restoration”.
- b. The General Contractor shall submit name of proposed Specialty Bronze Door Contractor in the pre-qualification process. See 00 4513 “Pre-Qualification Form for Bronze Door Restoration”.
- c. It is recognized that the work required herein is so specialized that limited firms have experience restoring the functionality, mechanical components, and finishes of monumental bronze doors. Therefore, the experience sought is similar to a combination of dealing with bronze, monumental art works, and mechanical skills likely to be required in the moving, dismantling, investigation, repairs to and fabrication of mechanical assemblies, reassembly, and reinstallation of the doors.

3. DESCRIPTION OF WORK:

- a. Fully restore sliding pocket bronze doors adjacent to the South Portico of the Capitol. These two sets of doors are identified in drawings as E200 and W200 .
- b. Required are submittals and/or shop drawings confirming existing conditions of door replacement parts, information on replication of new parts, and final scope of work.
- c. Included in this phase of the work:
 - 1) Lubricate hinges, locks, and all other accessible moving parts of all panels to allow free movement of parts.
 - 2) Remove lintel access panel and center door stop. Remove and dismantle each door leaf using the access panels below the trolleys.
 - i. Handle each door leaf and all its parts with extreme care to preserve and protect from damage. Do not clip, scratch, or break. Do not use wrecking bars or other leverage tools without protecting edges and faces of panel with wood or other solid materials with absorb stresses to prevent marring finish.

- ii. When storing door leaves, place into padded crate especially constructed for it, with proper spacing blocks and other material to protect, secure, and prevent damage while work on track and trolley system above is being performed.
 - iii. Transport to secure off-site contractor controlled fabrication facility.
 - iv. Lift with wide belt slings, or if using cable, provide proper protective padding to prevent damage to all surfaces.
 - v. Install temporary closure to door opening. See 02 4119 “Selective Demolition”.
- 3) Dismantle upper track and trolley system of each set of sliding pocket doors. Remove with the gentlest means possible. Transport to indoor fabrication shop to use as a template for new fabrication using new, non-corrosive stainless steel, and the latest mechanical technology.
 - i. See specification 080311.03 for Mechanical Parts and Assemblies work.
 - 4) Dismantle sliding pocket doors to examine inner structural steel framework. Assess conditions and determine plumbness, structural integrity, and hardware strength. Repair or completely overhaul interior steel framework.
 - 5) Clean and refinish bronze doors and surrounding components.
 - i. Refer to 050371 “Historic Metal Cleaning” and 050373 “Historic Decorative Metal Refinishing”.

Submit testing samples of 12” x 12” sheet metal of same metallic composition as doors, using above mentioned treatment options to produce a range of various patinas for consideration. Refer to 050371 “Historic Decorative Metal Cleaning”, 050373 “Historic Decorative Metal Refinishing”, and 050374 “Historic Decorative Metal Replication”.

- 6) Reassemble bronze sliding pocket doors, seal all joints for watertightness. Replace all door hardware with brass, bronze, or other acceptable hardware as approved by Architect. Countersink new holes for increased hardware strength and flush conditions.

END OF SECTION 080311.01

SECTION 080311.2 – HISTORIC TREATMENT OF BRONZE DOORS – MONUMENTAL BI-FOLD DOORS

PART 1 - GENERAL

1. RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 sections, apply to work of this section.

2. SPECIAL CONDITIONS:

- a. Specialty Bronze Door Contractor: The principal work required in this section shall be performed by a firm with special skills, knowledge, and experience in performing work on monumental bronze doors. See 00 4513 "Pre-Qualification Form for Bronze Door Restoration".
- b. The General Contractor shall submit name of proposed Specialty Bronze Door Contractor in the pre-qualification process. See 00 4513 "Pre-Qualification Form for Bronze Door Restoration".
- c. It is recognized that the work required herein is so specialized that limited firms have experience restoring the functionality, mechanical components, and finishes of monumental bronze doors. Therefore, the experience sought is similar to a combination of dealing with bronze, monumental art works, and mechanical skills likely to be required in the moving, dismantling, investigation, repairs to and fabrication of mechanical assemblies, reassembly, and reinstallation of the doors.

3. DESCRIPTION OF WORK:

- a. Fully restore monumental bi-fold bronze doors beneath the South Portico of the Capitol. This set of double bi-fold doors is identified in drawings as C200 and consists of two carrying leaves and two meeting leaves, surrounding bronze panels and frames, upper bronze transom grille, bronze threshold, bronze pocket panels, bronze soffit panels, and all other mechanical parts identified in the drawings.
- b. Required are submittals and/or shop drawings confirming existing conditions of door replacement parts, information on replication of new parts, and final scope of work.
- c. Included in this phase of the work:
 - 1) Lubricate hinges, locks, and all other accessible moving parts of all panels to allow free movement of parts.
 - 2) Disassemble wood and glass vestibule adjacent to monumental bronze doors. Document existing conditions before disassembly. Catalogue all parts and pieces for reassembly. Store in packaging crate on interior with property protection and security.

- 3) Using the gentlest means possible remove all access panels, coverings, trim pieces, and another other panel or item that may be obstructing the access to upper and lower pivot pins to swing the meetings leaves to securely lock into the carrying leaves for removal of the doors. Catalogue all parts and pieces for reassembly or to use as a template for new fabrication as necessary. To get both doors in the closed position, it may be necessary to selectively cut, demo, and/or salvage parts of the doors or surrounding conditions.
- 4) Examine the surrounding structural steel framing adjacent to the doors. General Contractor shall notify Owner and Architect of any concerns with existing structural integrity of members adjacent to the doors.
- 5) Remove and transport monumental bronze doors:
 - a) Handle each set of carrying and meeting leaf doors and all its parts with extreme care to preserve and protect from damage and ensure structural integrity of doors and inner steel framing. Do not clip, scratch, or break. Do not use wrecking bars or other leverage tools without protecting edges and faces of panel with wood or other solid materials with absorb stresses to prevent marring finish. Protect surrounding finishes and structural conditions.
 - b) Lock meeting leaves into carrying leaves. Construct primary structural support framing to be securely installed around each door which will minimize warping, bending, and distortion as well as damage to surrounding building structure during removal. Secondary shoring should consist of welded metal frame system, or comparable system to be approved by Architect and Specialty Bronze Door Contractor, adequate to fully protect the structural integrity of the doors and the cast bronze panels during transportation.
 - c) Cut upper and lower pivot pins allowing doors to rest in place and be supported by secondary shoring structure as well as surrounding building structure. Review original structural drawings and consult a structural engineer for the configuration, sizing, and location of secondary shoring structure and bearing points onto building structure beneath. Ensure doors bear safely on structure below ahead of lifting out of portico and onto transportation truck. Salvage pivot pins for use as a template for newly fabricated pivot pins. Remove modern epoxy fill within pivot pin pocket.
 - d) Hoist doors using a crane and place onto a truck in the best configuration for avoiding warping, bending, distortion, and surface damage to the bronze panels. Use wide belt slings, or if using cable, attach to secondary shoring structure and provide proper protective padding to prevent damage to all surfaces.
 - e) Transport monumental bi-fold doors to indoor work shop with minimum 25' ceilings. Use bridge-crane to hoist onto custom built table at least 18'

- x 8' in dimension with ½" thick top plate capable of supporting weight of doors. At Contractor's option, this shop may be either its subcontractor's facilities, the contractor's facilities, or a temporary local space leased for that purpose.
- f) Install temporary closure to door opening. See 02 4119 "Selective Demolition."
 - g) Remove cast bronze panels and investigate inner framework of monumental bronze doors. Correct any distortion of the inner framework. Straighten out existing inner framework from distortion and reinforce inner framework as necessary to ensure true alignment. If inner framework is damaged beyond repair, rebuild inner structural steel framing system.
 - h) Replace all mechanical assemblies using the latest in mechanical technology, parts, and materials for each existing assembly. Use existing assemblies as a template for newly fabricated parts. See Specification 080311.03 for Mechanical Parts and Assemblies work.
 - i) Cast new bronze replica of missing decorative rosette using existing bronze rosettes as templates and install. See 050374 "Historic Decorative Metal Replication".
 - j) Reassemble bronze doors and all parts with the latest technology in mechanical hardware connections. Bore new holes for increased hardware sizing and to shape holes for countersinking.
- 6) Metal work at jambs, heads, transom, or grille that has deteriorated beyond the point of refinishing/repair shall be replicated to practically like new condition and shall be replaced and finished to match adjacent restored areas.
 - 7) Clean and refinish bronze doors and surrounding components. Refer to 050371 "Historic Metal Cleaning" and 050373 "Historic Decorative Metal Refinishing".
 - 8) Remove and replace steel channel below door and replace with stainless steel.
 - 9) Relocate Monumental Bi-fold Door Threshold to correct location and secure in place to floor beneath. Ensure true alignment to receiving holes of upper and lower locking bolt throw rods. Seal all joints where dissimilar materials meet. See 079200 "Joint Sealants".
 - 10) Transport, locate in place, and reinstall monumental bi-fold doors using similar secondary structural shoring as during removal. Provide new Pivot Pocket Covers and other trim pieces to conceal and protect inner mechanical parts from future water damage. Seal all joints where dissimilar materials meet and where horizontal or vertical joints may allow water to infiltrate upper and lower pivot pockets. See 079200 "Joint Sealants".

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- 11) Reinstall wood and glass vestibule as was existing. Seal all joints in kind. See 079200 "Joint Sealants".

END OF SECTION 080311.02

SECTION 080311.3 – HISTORIC TREATMENT OF BRONZE DOORS – MECHANICAL PARTS AND ASSEMBLIES

PART 1 - GENERAL

1. RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 sections, apply to work of this section.

2. SPECIAL CONDITIONS:

- a. Subcontractor: The principal work required in this section shall be performed by a firm with special skills, knowledge, and experience in performing metal fabrication of mechanical assemblies on replication of mechanical assemblies and parts, preferably for monumental bronze doors.
- b. The Contractor shall submit name of proposed subcontractor, identifying the supervisor for approval, prior to installation, along with a listing of project, owners, addresses and phone numbers of at least five (5) significant similar projects during the proceeding 5 years, which will serve as a basis for validating this requirement.
- c. It is recognized that the work required herein is so specialized that limited firms have experience restoring the functionality, mechanical components, and finishes of monumental bronze doors. Therefore, the experience sought is similar to a combination of dealing with bronze, monumental art works, and mechanical skills likely to be required in the moving, dismantling, investigation, repairs to and fabrication of mechanical assemblies, reassembly, and reinstallation of the doors..

3. DESCRIPTION OF WORK:

- a. Remove and salvage to be used as a template all mechanical assemblies and hardware on the two bi-fold doors. Fabricate new using stainless steel and the latest in mechanical movement technology. Reinstall all new mechanical assemblies securely and with additional reinforcement and hardware strength per the Contractor's and Subcontractor's recommendations.
- b. Required are submittals and/or shop drawings confirming existing conditions of door replacement parts, information on replication of new parts, and final scope of work.
- c. Included in this list of newly fabricated or repaired parts and assemblies for the Monumental Bi-fold Doors:
 - 1) Upper (2) and Lower (2) Pivot Assemblies.
 - a) The subcontractor for this work shall engage the services of an expert with due consideration of weights; eccentric, torsional, and cantilever loading; and the requirements to seal and properly set new upper and

lower pivot assemblies in a concealed installation; and shall be responsible for the overall structural integrity of the final assembly.

- b) All new components/shop drawings shall be verified/stamped by Contractor-provided structural engineer.
- 2) Center Pivot Hinges (2)
 - a) Oil-light bearings are recommended for new hinge assemblies
 - b) Alternative to oil-light bearings is stainless steel with grease fittings
 - c) Build recessed grease fittings into tops of pins
 - d) Grease fittings shall be accessible for ease of maintenance
 - 3) Locking Assemblies for Meeting Leaves (2) and Carrying Leaves (2)
 - 4) Carrying Leaf Receiving Latch (2)
 - 5) Bumpers (8)
 - 6) Receiver Holes for Post (2)
 - 7) Posts (2)
 - 8) Inner Carbonite Steel Framework (4)
 - 9) Fastening Hardware
 - 10) Missing Bronze Interior Trim Pieces at Header (4)
 - 11) Pivot Pocket Covers
 - 12) Other Access Panels or Trim Pieces Selectively Demolished
- d. Included in this list of newly fabricated replacement parts and assemblies for the Pocket Doors:
 - 1) Trolley Assemblies (8)
 - 2) Trolley Tracks and Supports (2)
 - 3) Center Door Stop (2)
 - 4) Lower Track (4)
 - 5) Floor Pivot (4)
 - 6) Other Bronze Access Panels or Trim Pieces Selectively Demolished
- e. Replace all mechanical assemblies using each existing assembly as a template for newly fabricated parts.
 - 1) Use stainless steel or other noncorrosive, structurally adequate material.
 - 2) Use the latest in mechanical movement technology to ensure smooth operation of doors once reinstalled in original locations.

- 3) Increase strength and longevity of the doors and mechanical assemblies by boring new holes and replacing all fastening hardware in all locations.

END OF SECTION 080311.03

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes commercial door hardware for the following:
 - 1. Swinging doors.
- B. Door hardware includes, but is not necessarily limited to, the following:
 - 1. Mechanical door hardware.
 - 2. Electromechanical door hardware.
- C. Related Sections:
- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
 - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 - 2. ICC/IBC - International Building Code.
 - 3. NFPA 70 - National Electrical Code.
 - 4. NFPA 80 - Fire Doors and Windows.
 - 5. NFPA 101 - Life Safety Code.
 - 6. NFPA 105 - Installation of Smoke Door Assemblies.
 - 7. State Building Codes, Local Amendments.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - h. Warranty information for each product.
 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- C. Shop Drawings: Details of electrified access control hardware indicating the following:
1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:
 - a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
 - b. Complete (risers, point-to-point) access control system block wiring diagrams.
 - c. Wiring instructions for each electronic component scheduled herein.
 2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.
- D. Informational Submittals:
1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

- E. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.

1.4 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
- B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).
- C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.
- E. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.
- F. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
 - 1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
 - 2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
 - 3. Review sequence of operation narratives for each unique access controlled opening.
 - 4. Review and finalize construction schedule and verify availability of materials.
 - 5. Review the required inspecting, testing, commissioning, and demonstration procedures
- G. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.6 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.7 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of the hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 4. Electrical component defects and failures within the systems operation.
- C. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

1.8 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.
- B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
 - 1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.
- C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 LOCK AND LATCH STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
 - 1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
 - 2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
 - 3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
- B. Standards: Comply with the following:

2.3 ELECTROMAGNETIC LOCKING DEVICES

- A. Surface Electromagnetic Locks (Heavy Duty): Electromagnetic locks to be surface mounted type conforming to ANSI A156.23, Grade 2 with minimum holding force strength of 1,200 pounds. Locks to be capable of accepting between 12 to 24 volts direct current and be UL listed

for use on fire rated door assemblies. Electromagnetic coils are to consume no more than 1.5W during normal operation. Locks are to have an integrated door position switch, tamper switch, and lock bond sensor. Locks are to have integrated motion sensor and/or security camera as indicated in the hardware sets. Locks to be capable of detecting door prop conditions and entering low power mode. Provide mounting accessories as needed to suit opening conditions. Power supply to be by the same manufacturer as the lock with combined products having a lifetime replacement warranty.

1. Manufacturers:
 - a. Securitron (SU) - M680E Series.

2.4 DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.
2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.
4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Heavy duty surface mounted door closers shall have a 30-year warranty.
2. Manufacturers:

- a. Corbin Russwin Hardware (RU) - DC6000 Series.
- b. Norton Rixson (NO) - 7500 Series.
- c. Sargent Manufacturing (SA) - 351 Series.

2.5 ELECTRONIC ACCESSORIES

- A. Request to Exit - Motion Sensors: 20 mA-50 mA (depending on switching status) at 12 or 24 VDC. Surface mounted. Automatically overridden during emergency using existing security system.
 1. Manufacturers:
 - a. Securitron (SU) – XMS Passive Infrared.

2.6 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.7 FINISHES

- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware
- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

- A. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
 - 1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.
- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 - 2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
 - 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
- C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- D. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

- A. Field Inspection (Punch Report): Reference Division 01 Sections "Closeout Procedures". Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.
 - 1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

- A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SETS

- A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
 - 1. Quantities listed are for each pair of doors, or for each single door.
 - 2. The supplier is responsible for handling and sizing all products.
 - 3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.
 - 4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.
- B. Manufacturer's Abbreviations:

1. SU - Securitron
2. NO - Norton
3. RU - Corbin Russwin

Hardware Sets

Set: 1.0

Doors: 201, 205

Description: DOUBLE EGRESS EXISTING ADD DELAYED EGRESS MAGNETIC LOCK X CARD READER

2 Magnetic Lock	iMXDa		SU	087100
2 Surface Closer	CPS7500 (coordinate reveal and dr thickness)	690	NO	087100
1 Power Supply	AQD appropriate to hardware requirements		SU	087100
2 CARD READER	Wall Reader to be provided by Systems Integrator			
1 Request to Exit Sensor	XMS Passive Infrared		SU	087100

Notes: PHOTOS SHOW PAIR SAME DIRECTION WITH CROSS BAR EXIT. RECONFIGURE DOOR PER DOOR SCHEDULE REQUIREMENTS. GC TO CONFIRM EXISTING DOOR/FRAME WILL ACCEPT NEW HARDWARE AS SPECIFIED. ALL REMAINING IS EXISTING AND SHALL BE REUSED PROVIDED ALL IS IN GOOD WORKING CONDITION.

AUTHORIZED USER WILL EGRESS WITH CREDENTIAL TO OVERRIDE DELAYED EGRESS MAGNETIC LOCK VIA CARD READER SHUNT. UNAUTHORIZED USER WILL UPON PUSHING ON THE DOOR, THE DELAYED EGRESS MAGNETIC WILL SENSE MOVEMENT AND LOCK, SOUND AN AUDIBLE ALARM FOR 15 SECONDS THEN RELEASE AND ALLOW THE DOOR TO BE OPENED.

DOORS 2-1/2" THICK APPROX. COORDINATE WITH GC.

Set: 2.0

Doors: 202, 204

Description: DOUBLE EGRESS EXISTING ADD DELAYED EGRESS MAGNETIC LOCK X CARD READER

2 Magnetic Lock	iMXDa		SU 087100
2 Surface Closer	CPS7500 (coordinate reveal and dr thickness)	690	NO 087100
1 Power Supply	AQD appropriate to hardware requirements		SU 087100
2 CARD READER	Wall Reader to be provided by Systems Integrator		
1 Request to Exit Sensor	XMS Passive Infrared		SU 087100

Notes: RECONFIGURE DOOR PER DOOR SCHEDULE REQUIREMENTS. GC TO CONFIRM EXISTING DOOR/FRAME WILL ACCEPT NEW HARDWARE AS SPECIFIED. ALL REMAINING IS EXISTING AND SHALL BE REUSED PROVIDED ALL IS IN GOOD WORKING CONDITION.

AUTHORIZED USER WILL EGRESS WITH CREDENTIAL TO OVERRIDE DELAYED EGRESS MAGNETIC LOCK VIA CARD READER SHUNT. UNAUTHORIZED USER WILL UPON PUSHING ON THE DOOR, THE DELAYED EGRESS MAGNETIC WILL SENSE MOVEMENT AND LOCK, SOUND AN AUDIBLE ALARM FOR 15 SECONDS THEN RELEASE AND ALLOW THE DOOR TO BE OPENED.

DOORS 2-1/2" THICK APPROX. COORDINATE WITH GC.

Set: 3.0

Doors: 203

Description: PAIR EXISTING ADD MAGNETIC LOCK X CARD READER

2 Magnetic Lock	M680EBDX	613E	SU 087100
2 Surface Closer	CPS7500 (coordinate reveal and dr thickness)	690	NO 087100
1 Request to Exit Sensor	XMS Passive Infrared		SU 087100
1 Power Supply	AQD appropriate to hardware requirements		SU 087100
1 CARD READER	Wall Reader to be provided by Systems Integrator		

Notes: GC TO CONFIRM EXISTING DOOR/FRAME WILL ACCEPT NEW HARDWARE AS SPECIFIED. ALL REMAINING IS EXISTING AND SHALL BE REUSED PROVIDED ALL IS IN GOOD WORKING CONDITION.

ACCESS BY AUTHORIZED CARD CREDENTIAL TO DROP MAGNETIC LOCK ALLOWING INGRESS BY PULL. ALWAYS FREE EGRESS WITH CODE COMPLIANT EGRESS ACCESSORIES. ALL TO BE RELEASED UPON FIRE COMMAND STATION OR LOSS OF POWER.

DOORS 2-1/2" THICK APPROX. COORDINATE WITH GC.

Set: 4.0

Doors: C200, E200, W200

Description: EXISTING ALL TO REMAIN

1 Existing

Existing all to remain

END OF SECTION 087100

SECTION 281000 - ACCESS CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Access control system.

B. Products Installed, but Not Furnished, under This Section:

1. See Section 087100 "Door Hardware":
 - a. Electromagnetic locks.
 - b. Surface closers.
 - c. Power Supply
 - d. Push Button

1.2 DEFINITIONS

- A. DGP: Data gathering panel.
- B. NFC: Near field communications.
- C. REX: Request-to-exit.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Coordination Meeting(s): For access control. Conduct meeting(s) as videoconference before installation of door hardware and access control security.
 1. Attendees: Installers, fabricators, representatives of manufacturers, and administrators for field tests and inspections. Notify Architect and Owner of scheduled meeting dates.

1.4 ACTION SUBMITTALS

A. Shop Drawings:

1. Project general notes.
2. Head-end hardware, equipment, and device locations.
3. Block diagram and cable/conduit routing illustrating end-to-end system wiring.
4. End-to-end system communications details.
5. Secondary power calculations
6. Integration with existing security software system
 - a. JCI P2000

B. Field Quality-Control Submittals:

1. Field quality-control reports.

1.5 INFORMATIONAL SUBMITTALS

A. Sample warranties.

1.6 CLOSEOUT SUBMITTALS

A. Manufacturers' Published Instructions: Record copy of official installation instructions issued to Installer by manufacturer for the following:

1. Installation and programming instructions for operating system software, including all applicable software add-ons.
2. Installation and programming instructions for antivirus and security protection software.
3. Manufacturer's recommended setup and testing procedure for operating system software and applicable software add-ons.
4. Troubleshooting instructions for operating system software and applicable software add-ons.
5. Manufacturer's recommended setup and testing procedure for antivirus and security protection software.
6. Troubleshooting instructions for antivirus and security protection software.
7. Installation instructions for integration into existing access control system servers.
8. Installation instructions for integration into existing access control system DGPs.
9. Installation instructions for integration into existing access control system input/output interface.
10. Installation instructions for integration into existing access control system workstation.
11. Installation instructions for access control system power supplies and battery chargers.
12. Manufacturer's recommended testing and inspection procedure for operation of access control system servers, panels, and input/output interfaces.
13. Manufacturer's recommended testing and inspection procedure for operation of access control system power supplies and battery chargers.
14. Installation instructions for integrated credential readers and entry management devices.
15. Installation instructions for electrified locking devices and accessories.
16. Installation instructions for egress management devices.
17. Manufacturer's recommended tests and inspections for integrated credential readers and entry management devices.
18. Manufacturer's recommended tests and inspections for electrified locking devices and accessories.
19. Manufacturer's recommended tests and inspections for egress management devices.
20. Manufacturer's recommended testing and inspection procedure for end-to-end operation of access control system software, hardware, and integrated hardware devices.

B. Warranty documentation.

1.7 WARRANTY FOR ACCESS CONTROL SYSTEM

- A. Special Installer Extended Warranty: Installer warrants that fabricated and installed access control system performs in accordance with specified requirements, integrates into existing access control system, and agrees to repair or replace components that fail to perform as specified within extended-warranty period.
1. Extended-Warranty Period: Four years from date of Substantial Completion; full coverage for labor, materials, and equipment.

PART 2 - PRODUCTS

2.1 CREDENTIAL READERS

- A. Description: Electronic devices that read one or more types of access credentials and are part of existing overall access control system. These devices read and transfer credential info to access control system for control of door locks and other access control components.
- B. Performance Criteria:
1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
 2. Listing Criteria:
 - a. UL CCN ALVY; including UL 294.
 - b. Plastic Enclosure: UL CCN QMFZ2; including UL 94.
 3. General Characteristics:
 - a. Visual LED indication of credential authorization.
- C. Proximity Reader for Card, Fob, or Smartphone:
1. Match existing card reader hardware products found throughout exterior entry points.
 2. Source Limitations: Obtain products from single manufacturer.
 3. Options:
 - a. Enclosure Rating: Match existing.
 - b. Input Voltage: Match existing.
 - c. Operating Temperature: Minus 40 to plus 160 deg F.
 - d. Read Range: Match existing.
 - e. Transmit Frequency: Match existing.
 - f. Materials: Match existing.
 - g. Colors: Match existing.
 - h. Climate: Outdoor.
 - i. Size: Match existing.

PART 3 - EXECUTION

3.1 INSTALLATION OF ACCESS CONTROL SYSTEM

- A. Description: Access control system provides a means of regulating or controlling physical entry into an area, or access to or use of a device by electrical, electronic, and/or mechanical means. Typical access control system includes a card reader at a controlled door, which reads a user credential and sends the collected data to a centrally located DGP over the cabling infrastructure. DGP may hold a user database onboard or may communicate with a user database over the network. If user is authorized for access at a controlled door, DGP signals the electronic lock at the door to unlock. If user credential is not authorized according to user database, the door remains locked and access is denied. In addition to card readers and electronic locks, access control systems may include various other connected devices programmed for a desired function.
- B. Performance Criteria:
1. Regulatory Requirements:
 - a. Components listed and labeled in accordance with NFPA 70 and NFPA 72, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
 - b. Comply with NFPA 1, NFPA 730, NFPA 731, and ICC IBC.
- C. Selection of Access Control System Components:
1. Source Limitations: Obtain components for access control system from previously used manufacturer warranting performance of entire system.
 2. Provide the following specified products for access control:
 - a. Power Supply: AQD appropriate to hardware requirements
 - 1) Three (3) Power Supplies, one to operate Doors 201 & 202, one to operate Doors 204 & 205, and one to operate Door 203.
 - b. Card Readers: Match existing manufacturer specifications to integrate into existing system.
 - 1) Five (5) Card Readers, one at each Door 201-205
 - c. Magnetic Locks: iMXDa
 - 1) Ten (10) Magnetic locks, one at each door leaf of Doors 201-205
 - d. Surface Closers: CPS7500
 - 1) Ten (10) Surface Closers, one at each Door 201-205.
 - e. Push Button: PB5
 - 1) One (1) Push Button at Door 203.
- D. Systems Integration:

1. Integrate all new door hardware and access control hardware with existing security system.
 - a. JCI P2000
2. Coordinate with FMDC and existing security system service provider to source products and integrate with existing system.

END OF SECTION 281000