

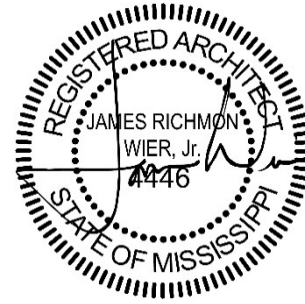


22 November 2022

GS# 346-009

Facility Improvements: MS Sports Hall of Fame & Museum

WBA Project No. 21-015



ADDENDUM NO. 01

NOTICE TO ALL DOCUMENT HOLDERS:

The following additions, deletions, changes and clarifications to the drawings and specifications are to be included as part of the Contract Documents.

SPECIFICATIONS

- ITEM NO. 01** **SECTION 01.1000 thru Section 01.7800 GENERAL REQUIREMENTS**
REMOVE Sections in their entirety.
REPLACE Sections with updated version from the Bureau of Buildings dated November 18, 2022

DRAWINGS

- ITEM NO. ##** **NO REVISIONS**

GENERAL

- ITEM NO. 02** **PER_BID MEETING**
A Pre-bid Meeting will be held at the Mississippi Sports Hall of Fame and Museum (1152 Lakeland Drive, Jackson, MS 36216) at **10:00 AM on December 6th, 2022.**
- ITEM NO. 03** **DOOR CLARIFICATION**
Doors are to be renovated by alternate. **DOORS 131, 132, 133, 134, 136A, 136B, 136C, 137** are included in **ALTERNATE 04** and **DOOR 126B** is included in **ALTERNATE 05.** **ALL** other door work is to be included in the base bid.

Encl: Specifications (8.5 x 11):
10 3 Division 1 01 6000 11182022.pdf

Drawings (24x36):
none

cc: All Document Holders
File 21-015.C2



SUMMARY OF WORK

SECTION 01 1000

1.01 WORK COVERED BY CONTRACT DOCUMENTS

- A. **Work Covered:** Work covered by the Contract Documents is as shown in drawings and described in words in the Project Manual. The Project Title and location is indicated on the first page of this Project Manual.
- B. **Start of Work:** Work shall be started immediately upon issuance of a *Notice to Proceed*. Prior to this, all Contracts and beginning documents will have been executed and insurance in force.
- C. **Time of Completion:** The completion of this Work is to be on, or before, the time indicated in the *Standard Form of Agreement Between the Owner and the Contractor*.
- D. **Contractor's Duties:**
 - 1. Except as specifically noted, provide and pay for:
 - a. Labor, materials and equipment.
 - b. Tools, construction equipment and machinery.
 - c. Water, heat and utilities required for construction.
 - d. Other facilities and services necessary for proper execution and completion of the Work.
 - 2. Pay legally required sales, consumer, use, payroll, privilege and other taxes.
 - 3. Secure and pay for, as necessary for proper execution and completion of work, and as applicable at the time of the receipt of the bids:
 - a. Permits.
 - b. Government fees.
 - c. Licenses.
 - 4. Give required notices.
 - 5. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of work.
 - 6. Promptly submit written notice to Professional of observed variance of Contract Documents from legal requirements. It is not the Contractor's responsibility to make certain that drawings and specifications comply with codes and regulations. Appropriate modifications to Contract Documents will adjust necessary changes. Assume responsibility for work known to be contrary to such requirements, without notice.
 - 7. Enforce strict discipline and good order among employees. Do not employ or work unfit persons, or persons, not skilled in assigned task.
 - 8. Provide a written safety plan.
- E. **Hazardous Materials:** The Prime General Contractor is responsible for the removal and disposal of any hazardous materials encountered in the performance of the Contract requirements. Hazardous Containing Materials [HCM] include, but are not limited to, Asbestos and Lead Paint and should be identified and removed as a part of the Contract. The absence of details does not relieve the Prime General Contractor from the responsibility of removal and disposal; but, a Change Order could be executed in the absence of identified HCM in the documents.
- F. **Coordination:** The Prime General Contractor is responsible for the coordination of the total project. All other Contractors and all Subcontractors will cooperate with the Prime General Contractor so as to facilitate the general progress of the Work. Each trade shall afford all other trades every reasonable opportunity for the installation of their work. Refer to Section 01 3100 entitled *Project Coordination*.

1.02 CONTRACTS

Contracts: Construct work under a single Prime General Contract. Refer to Section 00 5200 entitled *Standard Form of Agreement Between the Owner and the Contractor*.

Division One

1.03 **WORK BY OTHERS**

Work by Others shall be described in each appropriate Project Manual section and noted on the Drawings.

1.04 **OWNER-FURNISHED PRODUCTS**

- A. **Products Furnished By Owner:** Products furnished by Owner shall be described in each appropriate Project Manual section and noted on the Drawings.
- B. **Products:** Delivered and unloaded at site.
- C. **Owner's Duties:**
 - 1. Schedule delivery date with Supplier in accordance with construction schedule.
 - 2. Obtain installation drawings and instructions.
 - 3. Submit claims for transportation damages.
 - 4. Arrange Guarantees, Warranties, etc..
- D. **Contractor's Duties:**
 - 1. Designate required delivery date for each product in construction schedule.
 - 2. Promptly inspect delivered products, report missing, damaged, or defective items.
 - 3. Handle at site, including uncrating and storage.
 - 4. Protect from exposure to elements and from damage.
 - 5. Repair or replace damaged items resulting from Contractor's operations.
 - 6. Install and make final connections.

1.05 **CONTRACTOR'S USE OF PREMISES**

- A. Confine operations at site to areas permitted by:
 - 1. Law.
 - 2. Ordinances.
 - 3. Permits.
 - 4. Contract Documents.
 - 5. Owner.
- B. Do not unreasonably encumber site with materials or equipment.
- C. Do not load structure with weight that will endanger structure.
- D. Assume full responsibility for protection and safekeeping of products stored on premises.
- E. Move any stored products which interfere with operations of Owner or other Contractors.
- F. Obtain and pay for use of additional storage or work areas needed for operations.
- G. Limit use of site for work and storage to the area indicated in the drawings.

1.06 **SPECIAL REQUIREMENTS**

- A. Refer to Section 01 8000 entitled *Special Requirements* for any Project specific summary of work requirements.

ALLOWANCES

SECTION 01 2100

1.01 DESCRIPTION

- A. **Related Work Specified Elsewhere:** Sections of Specifications as listed under Schedule of Allowances.
- B. **Allowances for Products:**
 - 1. Purchase products under each allowance as directed by the Professional.
 - 2. Amount of each allowance includes:
 - a. Net cost of product.
 - b. Delivery and unloading at site.
 - c. Applicable taxes.
 - 3. In addition to amounts of allowances, include in bid, for inclusion in Contract Sum, Contractor's costs for:
 - a. Handling at site, including uncrating and storage.
 - b. Protection from elements and damage.
 - c. Labor, installation and finishing.
 - d. Other expenses required to complete installation.
 - e. Overhead and profit.
- C. **Selection of Products:**
 - 1. **Architect's Duties:** Consult with Contractor in consideration of products and Suppliers; make selections, designate products to be used; and, notify Contractor in writing.
 - 2. **Contractor's Duties:** Assist Professional in determining qualified Suppliers; obtain proposals from Suppliers when requested by the Professional; and, make appropriate recommendations for consideration of the Professional. Upon notification of selection, enter into Purchase Agreement with designated Supplier.
- D. **Delivery:** The Contractor is responsible for arranging all delivery and unloading and should promptly inspect products for damage or defects and submit claims for transportation damage.
- E. **Installation:** Comply with requirements of referenced specification section.
- F. **Adjustment of Costs:** Should actual purchase cost be more, or less, than the specified allowance amount, the Contract Sum will be adjusted by Change Order equal to the amount of the difference.

1.02 SCHEDULE OF ALLOWANCES

- A. Refer to Section 01 8000 entitled *Special Requirements* for Project specific Schedule of Allowances.

ALTERNATES

SECTION 01 2300

1.01 DESCRIPTION

- A. **Scope:** This section describes the changes to be made under each alternate.
- B. **General:** The referenced Specification sections contain the pertinent requirements for materials and methods to achieve the work described herein. Coordinate related work and modify surrounding work, as required, to complete the Project under each alternate designated in the Contract.

Division One

1.02 DESCRIPTION OF ALTERNATES

- A. Refer to Section 01 8000 entitled *Special Requirements* for Project specific description of project Alternates.

CHANGE ORDER PROCEDURES

SECTION 01 2600

1.01 SCOPE

- A. This Section describes the procedures for processing Change Orders to the Contract by the Owner, the Professional and the Contractor.

1.02 CHANGE ORDER PROCEDURES

- A. **Change Proposed by Professional:** The Professional may issue a Change Order Request to the Contractor which includes a detailed description of a proposed change with supplementary or revised Drawings and Specifications and a change in Contract Time for executing the change. The Contractor will prepare and submit a Change Order Proposal within ten (10) working days.
- B. **Change Proposed by Contractor:** The Contractor may propose a change by submitting a request for change to the Professional, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other Contractors. Document any requested substitutions in accordance with Section 01 6000 entitled *Substitutions and Product Options*.
- C. **Contractor's Documentation:**
1. Maintain detailed records of Work completed on a time and material basis. Provide full information required for evaluation of proposed changes, and substantiate costs of changes in the Work.
 2. Document each quotation for a change in cost or time with sufficient data allowing evaluation of the quotation.
 3. On request, provide additional data to support computations:
 - a. Quantities of products, labor, and equipment
 - b. Taxes, insurance and bonds
 - c. Overhead and profit
 - d. Justification for any change in Contract Time
 - e. Credit for deletions from Contract, similarly documented
 4. Support each claim for additional costs, and for Work completed on a time and material basis, with additional information:
 - a. Origin and date of claim
 - b. Dates and times work was performed and by whom
 - c. Time records and wage rates paid
 - d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
- D. **Construction Change Directive:** The Professional may issue a document, approved by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. The document will describe changes in the Work, and will designate method of determining any change in Contract Sum or Contract Time. The change in Work will be promptly executed.
- E. **Format:** The Professional will prepare three (3) originals of the Change Order or Change Directive using the Bureau of Building, Grounds and Real Property Management's *Change Order Form*. Where time is of the essence, and at the sole discretion of the Owner, scanned documents may be deemed acceptable to the Owner where signatures and dates are executed in blue ink.
- F. **Types of Change Orders:**
1. **Stipulated Sum Change Order:** Based on Proposal Request and Contractor's fixed price quotation, or Contractor's request for a Change Order as approved by the Professional.

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2. **Unit Price Change Order:** For pre-determined unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute Work under a Construction Change Directive. Changes in Contract Sum or Contract Time will be computed as specified for Time and Material Change Order.
 3. **Time and Material Change Order:** Submit itemized account and supporting data after completion of change, within time limits indicated in the *Standard Form of Agreement Between the Owner and the Contractor*. The Professional will determine the change allowable in Contract Sum and Contract Time as provided in the Contract Documents. The Contractor shall maintain detailed records of Work accomplished on Time and Material basis and shall provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.
- G. **Execution of Change Order:** The Professional will issue Change Orders for signatures of parties as provided in the *Standard Form of Agreement Between the Owner and the Contractor*. Final execution of all Change Orders requires approval by the Owner.
- H. **Correlation of Contractor Submittals:** The Contract shall promptly revise *Schedule of Values* and the *Application for Payment* forms to record each authorized Change Order as a separate line item and adjust the Contract Sum. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust time for other items of Work affected by the change and resubmit. Promptly enter changes in Project Record Documents.

SCHEDULE OF VALUES

SECTION 01 2973

1.01 DESCRIPTION

- A. **Scope:** Submit a *Schedule of Values* to the Professional at least ten (10) days prior to submitting the first Application for Payment. Upon the Professional's request, the Contractor will provide supportive data substantiating their correctness. Use *Schedule of Values* only as basis for Contractor's Application for Payment.
- B. **Form of Submittal:** Submit Schedule of Values on AIA Document G703, or computer generated form containing similar style, using Table of Contents of these Specifications as basis for format for listing costs of work for sections under Divisions 2-48. Identify each line item with number and title as listed in Table of Contents in these Specifications.
- D. **Preparing Schedule of Values:**
1. Itemize separate line item cost for each of the following general cost items: Performance and Payment Bonds, field supervision and layout, temporary facilities and controls.
 2. Itemize separate line item cost for work required by each Section of these Specifications. Break down installed cost with overhead and profit.
 3. Where determined to be feasible by the Owner, for each line item which has installed value of more than \$20,000, break down costs into sub-components or divisions of \$20,000 or less, rounding figures to nearest dollar. Make sum of total costs of all items listed in Schedule equal to total Contract Sum.
- E. **Preparing Schedule of Unit Material Values:**
1. Submit separate Schedule of unit prices for materials to be stored on which progress payments will be made. Make form of submittal parallel to Schedule of Values with each line item identified same as line item in Schedule of Values. Include in unit prices only: cost of material, delivery, unloading at site, and sales tax.
 2. Make sure unit prices multiplied by quantities equal material cost of that item in Schedule of Values.
- F. **Review and Resubmittal:** After Professional's review, if requested, revise and resubmit Schedule of Values in same manner.

Division One

APPLICATIONS FOR PAYMENT

SECTION 01 2976

1.01 SCOPE

- A. This Section describes procedures for preparing and submitting Applications for Payment by the Contractor.

1.02 APPLICATIONS FOR PAYMENT

A. **Format:**

1. Applications for Payments will be prepared on AIA forms G702 - *Application and Certificate for Payment* and G703 - *Continuation Sheet*; or, a computer generated form containing similar data may be used.

B. **Preparation of Application:**

1. Present required information in typewritten form
2. Execute certification by signature of authorized officer
3. Use data from approved *Schedule of Values*. Provide dollar value in each column for each line item for portion of Work performed and for stored products.
4. List each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount as for an original Item of Work.
5. Prepare Application for Final Payment as specified in Section 01 7700 entitled *Contract Closeout*.

C. **Submittal Procedures:**

1. Submit original and one (1) copy of each Application for Payment
2. Submit an updated construction schedule with each Application for Payment as described in Section 01 3216 entitled *Progress Schedule* or Section 01 3127 entitled *Network Analysis Schedules*.
3. Submit requests for payment at intervals agreed upon by the Professional, Owner and Contractor.
4. Submit requests to the Professional at agreed upon times, or as may be directed otherwise.

D. **Substantiating Data:**

1. Submit data justifying dollar amounts in question when such information is needed.
2. Provide one (1) copy of the data with a cover letter for each submittal.
3. Indicate the Application number, date and line item number and description.

PROJECT COORDINATION

SECTION 01 3100

1.01 DESCRIPTION

- A. **Scope:** To set forth procedures, conditions and responsibility for coordination of the total project.
- B. **Project Coordinator:** The Contractor, as soon as practicable after the award of each Job Order, and prior to commencement of any on-site Work, shall submit name(s) and qualifications of the proposed superintendent and any assistant superintendents as set forth in the Contract Documents. Upon the approval of the Professional and the Owner, the Project Coordinator will remain until the Project is completed and cannot be removed during construction without the written consent of the Owner and the Professional.
- C. **Project Manager:** Where a Project involves a Mississippi Landmark or a building and/or site potentially eligible for such designation, the Contractor shall also submit name and qualifications of the project home office project manager as set forth in the General and Supplementary Conditions of the Contract. Upon the approval of the Professional and the Owner, the Project Coordinator will remain until the Project is completed and cannot be removed during construction without the written consent of the Owner and the Professional.

DUTIES OF PROJECT COORDINATOR

- A. **General:**
 - 1. **Coordination:** Coordinate the work of all Subcontractors and Material Suppliers.
 - 2. **Supervision:** Supervise the activities of every phase of work taking place on the Project.
 - 3. **Mechanical/Electrical:** Take special care to coordinate and supervise the work of the plumbing, heating and cooling and electrical Subcontractors.
 - 4. **Communication:** Establish lines of authority and communication at the job site.
 - 5. **Location:** The Project Coordinator must be present on the job all of the time.
 - 6. **Permits:** Assist in obtaining building and special permits required for construction.
- B. **Interpretations of Contract Documents:**
 - 1. **Consultation:** Consult with Architects and Engineers to obtain interpretations.
 - 2. **Assistance:** Assist in resolution of any questions.
 - 3. **Transmission:** Transmit written interpretations to concerned parties.
- C. **Cessation of Work:** Stop all work not in accordance with the requirements of the Contract Documents.
- D. **Division One:** Coordinate and assist in the preparation of all requirements of Division One and specifically as follows:
 - 1. **Cutting and Patching:** Supervise and control all cutting and patching of other trades' work.
 - 2. **Project Meetings:** Schedule and preside at all project meetings.
 - 3. **Construction Schedules:** Prepare and submit all construction schedules; supervise work to monitor compliance with schedules.
 - 4. **Shop Drawings, Product Data and Samples:** Administer the processing of all submittals required by the Project Manual.
 - 5. **Schedule of Values:** Assist in preparation and be knowledgeable of each entry in the Schedule of Values.
 - 6. **Testing:** Coordinate all required testing.
 - 7. **Temporary Facilities and Controls:** Allocate, maintain and monitor all temporary facilities.
 - 8. **Substitutions and Product Options:** Administer the processing of all substitutions.
 - 9. **Project Closeout:** Conduct final inspections and assist in collection and preparation of closeout documents.
 - 10. **Cleaning:** Direct and execute a continuing cleaning program throughout construction, requiring each trade to dispose their own debris.
 - 11. **Project Record Documents:** Maintain up-to-date project record documents.
 - 12. **Safety Measures:** Plan and enforce all safety requirements.
- E. **Changes:** Recommend and assist in the preparation of requests to the Professional for any changes in the Contract.
- F. **Application for Payment:** Assist in the preparation and be knowledgeable of each entry in the Application and Certificate for Payment.

SUBCONTRACTOR'S DUTIES

- A. **General:** The Subcontractor is responsible for coordinating and supervising employees in the work to be accomplished under their part of the Contract.
- B. **Schedules:** Conduct work to assure compliance with construction schedules.
- C. **Suppliers:** Transmit all instructions to Material Suppliers.
- D. **Cooperation:** Cooperate with the Project Coordinator and other Subcontractors.

OWNER-PURCHASED PRODUCTS

- A. **General:** Cooperate, accept delivery, arrange storage and protect Owner-purchased products until installation, or final acceptance.

Division One

PROJECT MEETINGS

SECTION 01 3119

1.01 DESCRIPTION

- A. **Contractor's Responsibilities:** The General Contractor will administer all progress meetings which include the following:
1. Prepare agenda
 2. Distribute written notice of meetings to listed attendees seven (7) days in advance
 3. Make physical arrangements for and presiding at the meetings
 4. Record minutes
 5. Distribute copies of the minutes to listed attendees, regardless of actual participation, within four (4) days
- B. **Pre-Construction Meeting:** The Bureau will schedule a pre-construction meeting as soon as possible after the award of Contract and the issuance of a *Notice to Proceed*.
1. **Attendees:**
 - a. Owner
 - b. Professional and Consultants
 - c. General Contractor
 - d. Major Subcontractors, including mechanical and electrical
 - e. Representatives of governmental, or other regulatory agencies
 - f. Commissioning Authority Professional (if Cx on project)
 2. **Minimum Agenda:** (prepared by the General Contractor)
 - a. Distribute and discuss preliminary construction schedule
 - b. Critical work sequencing
 - c. Designation of responsible personnel
 - d. Procedures for maintaining record documents
 - e. Use of premises, including office and storage areas
 - f. Owner's requirements
 - g. Security procedures
 - h. Housekeeping procedures
 - i. Commissioning issues (if Cx on project)
 3. **Utilities:** A written agreement must be reached on how all utilities will be furnished and the rates the Contractor will be charged. This agreement should be resolved at this meeting. Refer to Section 01 5000 entitled *Construction Facilities and Temporary Controls* and Section 01 8000 entitled *Special Requirements* of this Project Manual for additional utility requirements.
- C. **Progress Meetings:**
1. The Bureau will schedule regular meetings at the time of the pre-construction conference
 2. Hold all meetings as progress of work dictates
 3. **Attendees:**
 - a. Owner
 - b. Professional and Consultants
 - c. General Contractor
 - d. Subcontractors, as pertinent to the agenda
 - e. Commissioning Authority Professional (if Cx on project)
 4. **Minimum Agenda:**
 - a. Review, approve minutes of the previous meeting
 - b. Review work progress since last meeting
 - c. Note field inspections, problems and decisions
 - d. Identify problems which impede planned progress
 - e. Review off-site fabrication problems
 - f. Revise construction schedule, as indicated
 - g. Plan progress during the next work period
 - h. Review proposed changes

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- i. Complete other current business
 - j. Commissioning issues (if Cx on project)
- D. **Commissioning Meetings (if Cx on project):**
- 1. The Bureau will schedule a commissioning scoping meeting the pre-construction conference. Regular Commissioning Meetings will coincide with regularly scheduled Progress Meetings until such time that the Commissioning Process requires additional meetings. The Commissioning Authority Professional will chair, facilitate and document all Commissioning Meetings.
 - 2. **Attendees:**
 - a. Owner
 - b. Commissioning Authority Professional
 - c. Professional and Consultants
 - d. General Contractor
 - e. Subcontractors, as pertinent to unresolved issues identified in current Issues Log
 - f. Testing, Adjusting and Balancing Contractor
 - g. Using Agency's Building Operator/Physical Plant Representative
 - 3. **Minimum Agenda:**
 - a. Review, approve minutes of the previous meeting
 - b. Review Issues Log

PROGRESS SCHEDULES

SECTION 01 3216

1.01 DESCRIPTION

- A. **Scope:** Provide projected construction schedules for the entire Work and revise periodically. The following is a minimum requirement and other type schedules are acceptable with Owner's approval. This type of schedule is acceptable for any Project whose initial Contract award amount is **less than** one (1) million dollars (\$1,000,000).
- B. **Form of Schedules:** Prepare in form of horizontal bar chart.
 - 1. Provide separate horizontal bar column for each trade or operation.
 - 2. Place in order of the Table of Contents of Specifications.
 - 3. Identify each column by major Specification section number.
 - 4. Identify the first work day of each week by horizontal time scale.
 - 5. Scale and space to allow for updating.
- C. **Contents of Schedule:**
 - 1. Provide complete sequence of construction by activity.
 - 2. Indicate dates for beginning and completion of each stage of construction.
 - 3. Identify work of separate floors, separate phases, or other logically grouped activities.
 - 4. Show projected percentage of completion for each item of work as of first day of month.
- D. **Updating:**
 - 1. Show all changes occurring since previous submission of updated schedule.
 - 2. Indicate progress of each activity and completion dates.
- E. **Submittals:**
 - 1. Submit initial schedules to the Professional within fifteen (15) days after date of *Notice to Proceed*.
 - 2. Submit to Professional periodically updated schedules accurately depicting progress to first day of each month.
 - 3. Submit two (2) copies, one (1) to be retained by the Professional and the other forwarded to the Owner.

NETWORK ANALYSIS SCHEDULE

SECTION 01 3217

1.01 DESCRIPTION

- A. **Scope:** Provide projected network analysis schedules for the entire Work and revise periodically. This type of schedule is acceptable for any Project whose initial Contract award amount is one million dollars (\$1,000,000), or greater.

1.02 REFERENCES

- A. **Critical Path Methods in Construction Practice, 4th Edition:** Written by James M. Antill and Ronald W. Woodhead, published by Wiley.

1.03 QUALITY ASSURANCE

- A. **Contractor's Administrative Personnel:** Two (2) years minimum experience in using and monitoring CPM schedules on comparable Projects is required.

1.04 FORMAT

- A. **Listings:** Reading from left to right, in ascending order for each activity, identify each activity with the applicable specification section number.
- B. **Diagram Sheet Size:** Height and width as required.
- C. **Scale and Spacing:** To allow for notations and revisions.

1.05 SCHEDULES

- A. **Critical Path Methods:** Prepare network analysis diagrams and supporting mathematical analyses using the critical path method.
- B. **Order of Work:** Illustrate order and interdependence of activities and sequence of Work; how start of a given activity depends on completion of preceding activities, and how completion of the activity may restrain start of subsequent activities.
- C. **Complete Sequence of Construction:** Illustrate complete sequence of construction by activity, identifying work of separate stages. Provide dates for submittals and return of submittals; dates for procurement and delivery of products; and dates for installation and provision for testing. Provide legend for symbols and abbreviations used.
- D. **Mathematical Analysis:** Tabulate each activity of detailed network diagrams, using calendar dates, and identify for each activity:
1. Preceding and following event numbers
 2. Activity description
 3. Estimated duration of activity, in maximum thirty (30) day intervals
 4. Earliest start date
 5. Earliest finish date
 6. Actual start date
 7. Actual finish date
 8. Latest start date
 9. Latest finish date
 10. Total and free float

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11. Monetary value of activity (keyed to *Schedule of Values*)
 12. Percentage of activity completed
 13. Responsibility

E. **Analysis Program:** Capable of compiling monetary value of completed and partially completed activities, of accepting revised completion dates, and re-computation of all dates and floats.

F. **Required Sorts:** List activities in sorts or groups:

1. By preceding work item or event number from lowest to highest
2. By amount of float, then in order of early start
3. By responsibility in order of earliest possible start date
4. In order of latest allowable start dates
5. In order of latest allowable finish dates
6. Contractor's periodic payment request sorted by *Schedule of Values* listings, Specifications section
7. Listing of basic input data which generates the report
8. Listing of activities on the critical path
9. Monthly cash flow

G. **Schedule of Values:** Coordinate contents with *Schedule of Values* in Section 01 2973.

1.06 SUBMITTALS FOR REVIEW

A. **Preliminary Network Diagram:** Within fifteen (15) days after the date established in the *Notice to Proceed* submit proposed preliminary network diagram defining planned operations for the first sixty (60) days of Work, with a general outline for the remaining Work.

B. **Review:** Participate in review of preliminary and complete network diagrams jointly with the Professional.

C. **Proposed Complete Network Diagram:** Within twenty (20) days after joint review of proposed preliminary network diagram, submit draft of proposed complete network diagram for review. Include written certification that mechanical and electrical Subcontractors have reviewed and accepted proposed schedule.

D. **Complete Network Diagram:** Within ten (10) days after joint review, submit complete network analysis consisting of network diagrams and mathematical analysis.

E. **Updated Network Schedules:** Submit updated network schedules with each Application for Payment.

F. **Copies:** Submit the number of opaque reproductions the Contractor requires, plus two (2) copies which will be retained by the Professional and the Owner.

1.07 REVIEW AND EVALUATION

A. **Review:** Participate in joint review and evaluation of network diagrams and analysis with the Professional at each submittal.

B. **Evaluate:** Evaluate Project status to determine Work behind schedule and Work ahead of schedule.

C. **Revisions:** After review and approval of the Professional, revise as necessary as a result of the review and resubmit within ten (10) days.

1.08 UPDATING SCHEDULES

A. **Schedules:** Maintain schedules to record actual start and finish dates of completed activities.

B. **Progress:** Indicate progress of each activity to date of revision, with projected completion date of each activity. Update diagrams to graphically depict current status of Work.

Division One

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- C. **Modifications:** Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
 - D. **Changes:** Indicate changes required to maintain Date of Substantial or Total Completion. These changes will be made only with the approval of the Professional.
 - E. **Extensions:** Contract completion time will be adjusted only for causes specified in the Contract. Requests for an extension of the contract completion date by the Contractor shall be supported with a justification, CPM data and supporting evidence as the Owner may deem necessary for determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the Contract. Submission of proof based on revised activity logic duration and costs is obligatory to any approvals. The schedule must clearly display that the Contractor has used, in full, all the float time available for the work involved in the request. The Owner's determination as to the total number of days of contract extension shall be based upon the current computer-produced calendar-dated schedule for the time period in question and all other relevant information. Actual delays in activities which, according to the computer-produced calendar-dated schedule, do not affect the extended and predicted contract completion dates shown by the critical path in the network, will not be the basis for a change to the contract completion date. The Owner will, within a reasonable time after receipt of such justification and supporting evidence, review the facts and advise the Contractor in writing of the Owner's decision. The Contractor shall submit each request for a change in the contract completion date to the Owner. The Contractor shall include as a part of each change order proposal, a sketch showing all CPM revisions, duration changes, and cost changes, for the work in question and its relationship to other activities on the approved arrow diagram.
 - F. **Substantiate:** Submit sorts required to support recommended changes.
 - G. **Report:** Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect.

1.09 **DISTRIBUTION**

- A. **Distribution of Copies:** Following joint review, distribute copies of updated schedules to Contractor's Project site, to Subcontractors, Suppliers, Professional and Owner.
- B. **Reporting Problems:** Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

SECTION 01 3323

1.01 **DESCRIPTION**

- A. **Scope:** Submit to the Professional shop drawings, product data and samples required by Specification sections. Submit an additional copy of shop drawings, product data and samples related to items/systems identified to be commissioned to the Commissioning Authority Professional to be reviewed concurrently with the Professional. (if Cx on project).
- B. **Shop Drawings:** Original drawings prepared by Contractor, Subcontractor, Supplier, or Distributor which illustrate some portion of the Work; showing fabrication, layout, setting, or erection details.
 - 1. Prepared by a qualified detailer.
 - 2. Identify details by reference to sheet and detail numbers shown on Contract drawings.
 - 3. Minimum sheet size: 8 1/2" x 11"
 - 4. Reproductions for submittals: Opaque diazo prints.

C. **Product Data:**

1. **Manufacturer's Standard Schematic Drawings:** Modify drawings to delete information which is not applicable to the Project. Supplement standard information to provide additional information applicable to the Project.
 2. **Manufacturer's Catalog Sheets, Brochures, Diagrams, Schedules, Performance Charts, Illustrations and Other Standard Descriptive Data:** Clearly mark each copy to identify pertinent materials, products, or models. Show dimensions and clearances required. Show performance characteristics and capacities, wiring diagrams and controls.
- D. **Samples:** Physical examples to illustrate materials, equipment or workmanship and to establish standard by which completed work is judged.
1. **Office Samples:** Of sufficient size and quantity to clearly illustrate functional characteristics of products or material with integrally related parts and attachment devices and full range of color samples. After review, samples remain the property of the Professional until completion of the construction project.
 2. **Field Samples and Mock-ups:** Erect on project site at location acceptable to Professional. Construct each sample, or mock-up, completely including work of all trades required in finished work.

E. **Contractor's Responsibilities:**

1. Review shop drawings, product data and samples prior to submission.
2. Verify field measurements, field construction criteria, catalog numbers and similar data.
3. Coordinate each submittal with requirements of work and of Contract Documents.
4. Contractor's responsibility for errors and omissions in submittals is not relieved by the Professional's review of submittals.
5. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by Professional's review of submittals unless Professional gives written acceptance of specific deviations.
6. Notify Professional in writing at the time of submission of deviations in submittals from requirements of Contract Documents.
7. Begin no work requiring submittals until the return of submittals bearing Professional's stamp and initials, or signature indicating review.
8. After Professional's review, distribute copies.

F. **Submission Requirements:**

1. Schedule submission with ample time before dates reviewed submittals will be needed.
2. Submit number of copies of shop drawings and product data which Contractor requires for distribution, plus one (1) copy to be retained by the Professional.
3. Submit number of samples specified in each Specification section.
4. Accompany submittals with transmittal letter, in duplicate, containing date, Project title and number; Contractor's name and address; the number of each shop drawings, product data and samples submitted; notification of deviations from Contract Documents; and, other pertinent data.
5. Submittals shall include:
 - a. Date and revision dates.
 - b. Project title and number.
 - c. The names of the Professional, Contractor, Supplier, Manufacturer and separate detailer, when pertinent.
 - d. Identification of product, or material.
 - e. Relation to adjacent structure, or materials.
 - f. Field dimensions clearly identified as such.
 - g. Specification section number.
 - h. Applicable standards such as ASTM number, or federal specifications.
 - i. A blank space (2" x 3") for the Professional's stamp.
 - j. Identification of deviations from Contract Documents.
 - k. Contractor's stamp, initialed or signed, certifying the review of submittal, verification of field measurements and compliance with Contract Documents.

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G. **Resubmission Requirements:**

1. **Shop Drawings:** Revise initial drawings, as required, and resubmit as specified for initial submittal. Indicate on the drawings any changes which have been made other than those required by the Professional.
2. **Product Data and Samples:** Submit new data and samples, as required, for initial submittal.

H. **Distribution of Submittals After Review:**

1. Distribute copies of shop drawings and product data which carry Professional's stamp to Contractor's file, job site file, Subcontractor, Supplier and Fabricator.
2. Distribute samples as directed.

I. **Professional's Duties:**

1. Review submittals with reasonable promptness.
2. Review for design concept of Project and information given in Contract Documents.
3. Review of separate item does not constitute review of an assembly in which item functions.
4. Affix stamp and initials, or signature, certifying the review of submittal.
5. Return submittals to Contractor for distribution.

TESTING LABORATORY SERVICES

SECTION 01 4529

1.01 **DESCRIPTION**

- A. **Scope:** The Contractor will employ and pay for the services of an independent laboratory to perform specified services. In some instances, Owner will provide such testing services through independent testing laboratory retained by the Professional. Employment of a testing laboratory or provision of such services by others shall in no way relieve the Contractor of his obligation to perform work in accordance with the Contract.
- B. **Inspection, Sampling and Testing:** Refer to each individual specification section for specific inspection, sampling and testing requirements.
- C. **Qualification of Laboratory:**
1. Meet the *Recommended Requirements for Independent Laboratory Qualification* published by the American Council of Independent Laboratories.
 2. Meet the basic requirements of ASTM E 329-70, *Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction*.
 3. Responsible Engineer: Perform all testing under the direct supervision of a registered Professional engineer employed full time by the testing laboratory.
 4. Submittals: Submit a copy of the inspection report of the facilities made by materials reference laboratory of National Bureau of Standards of any deficiencies reported by the inspection.
 5. Approval: The Professional must approve the testing laboratory.
- D. **Laboratory's Duties:**
1. Upon notice, cooperate with the Professional and the Contractor to promptly provide qualified personnel. Perform specified inspections, sampling and testing of materials and methods of construction to ascertain compliance with requirements of Contract Documents. Promptly notify the Professional and the Contractor of irregularities or deficiencies of work observed during performance of services.
 2. Reports of inspections and tests will include:
 - a. Date issued
 - b. Project title and number
 - c. Testing laboratory's name and address
 - d. Name and signature of inspector
 - e. Date of inspection, or sampling
 - f. Record of temperature and weather
 - g. Date of test

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- h. Identification of product and Specification section
 - i. Location of Project
 - j. Type of inspection, or test
 - k. Observations regarding compliance with Contract Documents
3. Prompt distribution of copies of the inspection reports and tests to:
- a. Owner
 - b. Professional
 - c. General Contractor
 - d. Consulting Engineer, when pertinent
 - e. Subcontractor, when pertinent

E. **Contractor's Responsibilities:**

- 1. Cooperate with laboratory personnel to provide access to work and to manufacturer's operation. Provide the laboratory with the required quantities of preliminary samples representative of materials to be tested and required quantities. When required, furnish copies of mill test reports. Furnish laboratory casual labor to obtain and handle samples at the site and to facilitate inspections and tests. Provide facilities for laboratory's exclusive use for storage and curing of test samples. Notify laboratory sufficiently in advance of operations to allow for assignment of personnel and scheduling of tests.
- 2. Arrange and pay for additional samples and tests required for Contractor's convenience. When initial tests indicate work does not comply with Contract Documents, the Contractor may employ and pay for the services of a separate, equally qualified independent testing laboratory to perform additional inspections, sampling and testing.

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

SECTION 01 5000

1.01 **DESCRIPTION**

- A. **Scope:** Work required under this section consists of all temporary construction facilities, services and related items to complete the work indicated on the drawings and described in the Project Manual.
- B. **Standards:**
 - 1. Conform to or exceed all temporary construction requirements stated in the current edition of the **International Building Code** [Chapter entitled *Safeguards During Construction*].
 - 2. Refer to Section 00 7200 entitled *General Conditions of the Contract For Construction, Article 10 Protection of Persons and Property* as amended by Section 00 7300 *Supplementary Conditions*.
- C. **Materials:** All materials required by the Work of this section shall be as specified in the respective sections.

1.02 **FACILITIES AND CONTROLS**

- A. **Access:** The Prime General Contractor shall provide an adequate access and/or roads to the site of the structure, if required for the prosecution of work; and, should also provide and maintain at least one (1) temporary, or permanent, access to each working elevation to be permanently occupied.
- B. **Hoisting Facilities:** The Prime General Contractor shall be responsible for providing suitable capacity and hoisting facilities for all people and materials. The use of the hoisting facilities shall be by mutual agreement of the Prime General Contractor and the individual Contractor.
- C. **Field Office and Sheds:** At all times, the Prime General Contractor shall provide and maintain an on-site office with telephone, which may also be used by Subcontractors, the Owner and the Professional. Office location will be approved by the Owner. Where no suitable available space within an existing building is specifically identified for such purposes in Section 01 8000 entitled *Special Requirements* or elsewhere in the Contract Documents, the Prime General Contractor shall provide a trailer with full utilities for such purpose throughout

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the Contract Time with space for both Contractor management personnel as well as for holding progress meetings. Each general and individual Contractor shall provide suitable watertight/dampproof sheds or containers to house their construction materials.

- D. **Sanitation Facilities:** The Prime General Contractor is responsible for furnishing adequate temporary toilet facilities on the job site unless use of existing facilities on site is specifically permitted in Section 01 8000 entitled *Special Requirements* or elsewhere in the Contract Documents.
- E. **Drinking Water:** The Prime General Contractor shall provide at all times sanitary drinking water facilities for all workmen on the job including ice, when required, and paper cups, etc.
- F. **Fire Protection:** The Prime General Contractor shall provide general temporary fire protection except where the Work is within an existing building with operational permanent fire protection systems. Subcontractors will be responsible for their own. Where operational permanent fire protection systems exist, the Prime General Contractor and all Subcontractors shall take care not to damage such systems and take measures to prevent accidentally engaging such systems. Where the temporary disabling of any existing operational system is required for the performance of the Work, such shut-down shall be coordinated with the Owner.
- G. **Storage:** The Prime General Contractor shall coordinate the allocation of storage areas to the various Subcontractors.
- H. **Temporary Heating/Cooling/Dehumidification:** The Prime General Contractor shall provide heating, cooling, dehumidification, fuel and services, as necessary, to protect all work from dampness and cold or excessive heat and humidity until final acceptance. If in the late stages of the construction, mechanical and electrical installations will permit operation without damage to systems, and subject to the approval of the Professional and Owner, the mechanical and electrical facilities may be used to provide heating, cooling, dehumidification and ventilation in strict accordance with conditions established by the Professional and/or his Consultants. However, the Owner is saved harmless of any costs of operation, including the periodic replacement of filters, or responsibility as to acceptance of mechanical and/or electrical installations.
- I. **Utilities:** The Prime General Contractor shall make arrangements for and furnish all water, gas, electricity (lighting and power) and other utilities necessary for construction purposes unless otherwise specified in Section 01 8000 entitled *Special Requirements* or elsewhere in the Contract Documents. Where any such utilities are to be furnished by the Institution or Agency, and such requirements are not detailed in Section 01 8000 or elsewhere in the Contract Documents, a written agreement must be reached on how any such utilities (water, gas, and electricity) will be furnished and the rates the Contractor will be charged by the Institution or Agency prior to initial use of any such utility. A copy of the final agreement signed by the Contractor and the Institution or Agency must be forwarded to the Owner. If the written agreement is not filed with the Owner, the Contractor and the Institution or Agency waives all rights as to the rates charged. The Owner will then determine all utility rates and assess the charges before final payment is rendered.
- J. **Project Sign:** Where required in Section 01 8000 entitled *Special Requirements* or elsewhere in the Contract Documents, the Contractor shall furnish and erect on adequate supports and maintain one (1) neatly constructed sign identifying the names of the Project, Governor, Owner, Prime Professional, Contractor and Using Agency/Institution, and Governing Board as applicable. Sign shall also indicate the source(s) of funds for the project. The erection of additional signs depicting the names of the Contractor, Sub-Contractor, or Vendors is strictly prohibited. Unless a larger sign is otherwise detailed in the Contract Documents, such sign shall be as follows:
 - 1. The Prime General Contractor will erect on adequate supports one (1) neatly constructed and painted or printed four foot by eight foot (4' x 8') plywood or equivalent panel conforming to the Owner's Project Sign Template to be furnished with text, colors, and graphics specific to the Project.
 - 2. No logos, graphics, custom fonts or similar are permitted for Prime Professional or Contractor names depicted on Project Sign.
 - 3. The Prime General Contractor is responsible for maintaining the Project Sign until Final Acceptance of the Work or until Substantial Completion when authorized by the Owner. Any damage, including chipping, peeling or fading of text or images shall be promptly repaired or replaced.

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SUBSTITUTIONS AND PRODUCT OPTIONS

SECTION 01 6000

1.01 DESCRIPTION

A. Scope: To set forth the procedure and conditions for substitutions and to give the product options available to the Contractor.

1.02 PRODUCTS LIST

- A. Within thirty (30) days after the Contract has been signed, the Contractor will submit to the Professional five (5) copies of a complete list of all products proposed for installation.
- B. Tabulate the list by Specification sections.
- C. For products specified under reference standards, include with listing of each product:
 - 1. Name and address of Manufacturer.
 - 2. Trade name.
 - 3. Model, or catalog designation.
 - 4. Manufacturer's data.
 - 5. Performance and test data.
 - 6. Reference standards.
 - 7. Percentage of recovered materials.

1.03 CONTRACTOR'S OPTIONS

- A. For products specified only by reference standards or technical performance requirements, select any product meeting product standards by any Manufacturer.
- B. For products specified by naming a minimum of three (3) products or Manufacturers, select any product and Manufacturer named. Equivalent products of domestic manufacture containing not less than the same percentage of recovered materials as named products will always be accepted if equal in all consequential respects.
- C. For product specified by naming one (1) or more products and/or Manufacturers, but indicating the option of selecting equivalent products by stating "or equal" after specified product and/or Manufacturer, select named product or any product of domestic manufacture containing not less than the same percentage of recovered material as named product meeting specified reference standards or technical performance requirements as represented by the named products and/or Manufacturers.
- D. For products specified by naming only one (1) product and/or Manufacturer as a "basis of design", an equivalent product of domestic manufacture containing not less than the same percentage of recovered materials as named product will always be accepted if it is equal in all consequential respects.
- E. For products specified by naming only one (1) product and Manufacturer and stating no substitutions will be accepted, there is no option and no substitutions will be allowed. This option must have written approval by the Owner before bidding.

1.04 SUBSTITUTIONS

- A. A product or construction method that varies from a product or construction method specified in one or more consequential characteristics, reference standards, or technical performance requirements shall be considered a substitution.
- B. Professional will not consider requests for substitutions during bidding.
- C. Within thirty (30) days after the Contract has been signed, the Professional will consider formal requests from the Contractor for substitution of products in place of those specified. Submit five (5) copies of the request for substitutions. Include in the request:

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1. Narrative summarizing characteristics, reference standards, or technical performance requirements that product varies from and how the proposed product or construction method will meet or exceed project requirements
 2. For products:
 - a. Product identification including Manufacturer's name and address.
 - b. Manufacturer's literature: Product description, performance and test data and reference standards.
 - c. Samples.
 - d. Name and address of similar projects on which product was used and date of installation.
 3. For construction methods:
 - a. Detailed description of proposed method.
 - b. Drawings illustrating methods.
 4. Agreement to pay for any additional professional costs if acceptance of substitution will require substantial revision of Contract Documents.
 5. Data relating to any delays to the construction schedule if any will result from proposed substitution.
 6. Accurate cost data on proposed substitution if any project cost increases are anticipated or any cost savings are being offered for proposed substitution.
- D. In making request for substitution, Contractor represents:
1. Proposed product, or method, has been investigated and determined that it is equal or superior in all respects to that specified.
 2. The same or better guarantee and/or warranty will be provided for substitutions for product or method specified.
 3. Installation of accepted substitutions will be coordinated into the Work, making such changes required of work to be complete in all respects at no additional cost to the Owner.
 4. All claims for additional costs related to substitution, including any delays to the construction schedule, which consequently become apparent will be waived.
 5. Unless specifically identified in substitution submittal and such delay is specifically agreed to by Change Order to the Contract, substitution will not cause any delay to the construction schedule.
 6. Proposed product, or method, will not result in any additional costs to the Owner.
- E. Substitutions will not be considered if:
1. Indicated, or implied, on shop drawings or product data submittals without formal request submitted in accordance with this Section.
 2. Acceptance will require substantial revision of Contract Documents unless compensation for such additional professional costs are paid by Contractor at no additional cost to the Owner.
 3. In the Professional's judgment, the product, or material, is not equal.
- F. For products where all named products are of domestic manufacture, substitutions of products of foreign manufacture will not be considered unless Contractor can sufficiently document that one or more of the following conditions exist:
1. No product of domestic manufacture meeting the product specifications is readily available that can be provided within the time constraints of the project requirements.
 2. Cost to provide a product of domestic manufacture meeting the product specifications is significantly greater than proposed product substitute.
- G. Substitutions of products with those of less percentage of recovered material than named product(s) shall only be considered where Contractor can sufficiently document that one or more of the following conditions exist:
1. No product of equal or greater percentage of recovered material as named product(s) is available that can be provided within the time constraints of the project requirements.
 2. Cost to provide a product of equal or greater percentage of recovered material as named product(s) meeting the product specifications is significantly greater than that of named product(s).

Division One

CUTTING AND PATCHING

SECTION 01 7329

1.01 GENERAL DESCRIPTION

- A. **Scope:** To set forth broad, general conditions covering cutting and patching that applies to everyone and everything on the job.
- B. Execute cutting including excavating, fitting, or patching of work required to:
 - 1. Make several parts fit properly.
 - 2. Uncover work to provide for installation of ill-timed work.
 - 3. Remove and replace defective work.
 - 4. Remove and replace work not conforming to Contract requirements.
 - 5. Install specified work in existing construction.
- C. In addition to Contract requirements, upon Professional's written instructions:
 - 1. Uncover work for observation of covered work.
 - 2. Remove samples of installed materials for testing.
 - 3. Remove work to provide alteration of existing work.
- D. Do not cut or alter work of another Contractor without permission.
- E. **Payment of Costs:** Costs caused by ill-timed, or defective work, or work not conforming to Contract Documents will be borne by party responsible for ill-timed, defective work, or non-conforming work.

1.02 MATERIALS/PRODUCTS

- A. **Materials for Replacement or Work Removed:** Comply with Specifications for type of work to be accomplished.

1.03 EXECUTION

- A. **Inspection:** Inspect existing conditions of work, including elements subject to movement, or damage during cutting and patching.
- B. **Preparation Prior to Cutting:** Provide shoring, bracing and support, as required, to maintain structural integrity of the building. Provide protection for other portions of work and protection from the elements.
- C. **Performance:**
 - 1. Execute cutting and demolition by methods which prevent damage to other work and will provide surfaces to receive installation of repairs and new work.
 - 2. Execute excavating and backfilling by methods which prevent damage to other work and prevent settlement.
 - 3. Restore work which has been cut or removed; install new products to provide completed work in accordance with requirements of Contract Documents.
 - 4. Refinish entire surfaces, as necessary, to provide an even finish. Refinish continuous surfaces to the nearest intersection and assemblies entirely.

CLEANING

SECTION 01 7400

1.01 DESCRIPTION

- A. **Scope:** Maintain premises and public properties from accumulations of waste, debris and rubbish caused by operations. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials and clean all sight-exposed surfaces; leave Project clean and ready for occupancy.

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1.02 **PRODUCTS**

- A. **Materials:** Use only cleaning materials recommended by Manufacturer of surface to be cleaned. Use cleaning materials only on surfaces recommended by the cleaning materials Manufacturer.

1.03 **EXECUTION**

- A. **During Construction:** Execute cleaning to insure that building, grounds and public properties are maintained free from accumulations of waste materials and rubbish. Wet down dry materials and rubbish to lay dust and prevent blowing dust. At reasonable intervals during progress of work, clean site and public properties and dispose of waste materials, debris and rubbish. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off Owner's property. Vacuum clean interior building areas when ready to receive finish painting and continue vacuum cleaning on an as-needed basis until building is ready for substantial completion or occupancy. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights. Schedule cleaning operations so that dust or other contaminants resulting from cleaning process will not fall on wet or newly painted surfaces.
- B. **Final Cleaning:** Employ experienced workmen, or professional cleaners, for final cleaning. In preparation for substantial completion or occupancy, conduct final inspection of sight-exposed interior and exterior surfaces and concealed spaces. Remove grease, dust, dirt, stains, labels, fingerprints and other foreign materials from sight-exposed finishes. Repair, patch and touch up marred surfaces to specified finish to match adjacent surfaces. Broom clean paved surfaces; rake clean other surfaces of grounds. Replace air conditioning filters, if units were operated during construction. Clean ducts, blowers and coils if air conditioning units were operated without filters during construction. Maintain cleaning until Project, or respective portions thereof, is occupied by Owner.

STARTING OF SYSTEMS

SECTION 01 7500

1.01 **GENERAL**

- A. **Scope:** This Section describes the procedures for start up of all building equipment and systems including necessary demonstration and instructions.

1.02 **STARTING SYSTEMS**

- A. Coordinate Schedule for start-up of various equipment and systems.
- B. Notify Professional and Owner seven (7) days prior to start-up of each system.
- C. Verify each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other conditions which may cause damage.
- D. Verify that tests, meter readings and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of responsible Contractors' personnel in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require Manufacturer to provide authorized representative to be present at site to inspect, check and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
- H. Submit a written report that equipment or system has been properly installed and is functioning correctly.

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DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel prior to date of Substantial Completion.
- B. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.
- C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at designated location.
- D. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

CONTRACT CLOSEOUT

SECTION 01 7700

DESCRIPTION

- A. **Scope:** The work required in this Section consists of the final inspections and the submission of all closeout documents and related items to complete the Work indicated on the Drawings and described in the Project Manual.

FINAL INSPECTIONS

- A. **Professional's Review:** The Contractor shall make written notice that the Work of a Job Order is ready for final inspection and acceptance by the Owner to the Professional; such notice to be given not less than ten (10) days prior to the date desired for inspection. The Professional will promptly visit the site and assess the state of Work of the Job Order to determine if it is ready for final inspection by the Owner. If, in the Professional's judgment, the Work of the Job Order is not ready for final inspection, the Professional will report the reasons for such determination to the Contractor. In such case, the Contractor shall then submit a revised request for final inspection when those reasons have been resolved. Once the Professional determines the Work of the Job Order is ready for final inspection, the Prime Professional will call for final inspection of the Project with the Owner for the purpose of determining whether the Work of the Job Order is acceptable under the Contract Documents.
- B. **Owner's Inspection:** After the Professional has ascertained the Work of the Job Order to be ready, an Owner's inspection will be scheduled within ten (10) days thereafter. The Contractor will have not more than thirty (30) days thereafter, unless a longer time for specific items is mutually agreed to in writing by the Owner and Contractor to make any corrections of the final punch list items and to submit closeout documents.
- C. **Correction of Work Before Final Payment:** The Contractor shall address all defects or discrepancies noted on the final punch list and promptly remove from the Owner's premises all materials condemned for failure to conform to the Contract, whether incorporated in the Work or not, and the Contractor shall, at his own expense, replace such condemned materials with those conforming to the requirements of the Contract. Failure to remedy such defects or discrepancies after thirty (30) days, unless a longer time for specific items is mutually agreed to in writing by the Owner and Contractor, will allow the Owner to make good such defects and such costs shall be deducted from the balance due the Contractor, or charged to the Contractor in the event no payment is due.

CLOSEOUT DOCUMENTS

Unless otherwise notified, the Contractor shall submit to the Owner through the Professional, three (3) copies of the following before final payment is made:

- A. **Request for Final Payment:** AIA Document G702, current edition, completed in full or a computer generated form having similar data.

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- B. **Consent of Surety Company to Final Payment:** AIA Document G707, current edition, completed in full by the Bonding company.
- C. **Power of Attorney:** Closeout documents should be accompanied by an appropriate Power of Attorney.
- D. **Release of Liens and Certification that All Bills Have Been Paid:** AIA Document G706A, current edition, completed in full or a sworn statement and affidavit from the Contractor to the Owner stating that all bills for this job have been paid and that the Owner is released from any and all claims and/or damages.
- E. **Contractor's Affidavit of Payment of Debts and Claims:** AIA Document G706, current edition, completed in full.
- F. **Guarantee of Work:** Sworn statement that all work is guaranteed against defects in materials and workmanship for one (1) year from date of Owner's acceptance, except where specified for longer periods.
1. Word the Guarantee as follows, or in a similar manner:
We hereby guarantee all work performed by us on the above captioned Project to be free from defective materials and workmanship for a period of one (1) year or such longer period of time as may be called for in the Contract Documents for such portions of the Work.
 2. All guarantees and warranties shall be obtained in the Owner's name.
 3. Within the Guaranty period, if repairs or changes are requested in connection with guaranteed work which, in the opinion of the Owner, are rendered necessary as a result of the use of materials, equipment or workmanship which are inferior, defective or not in accordance with the terms of the Contract, the Contractor shall promptly, upon receipt of notice from and without expense to the Owner, place in satisfactory condition building, site, equipment or contents thereof. The Contractor shall make good any work, materials, equipment or contents of said buildings or site which may be disturbed by fulfilling any such Guaranty.
 4. If, after notice, the Contractor fails to proceed promptly to comply with the terms of the Guaranty, the Owner may have the defects corrected and the Contractor and his Sureties shall be liable for all expense incurred.
 5. All special guarantees applicable to definite parts of the work stipulated in the Project Manual or other documents forming part of the Contract shall be subject to the terms of this paragraph during the first year of the life of such special guaranty.
- G. **Project Record Documents:** Furnish all other record documents as set forth in Section 01 7800 entitled *Project Record Documents*. Failure provide such documents within thirty (30) days of Request for Final Payment shall result in the Owner, in consultation with the Professional, determining a fair market value of such documents with such costs to be retained or deducted from the balance due the Contractor, or charged to the Contractor in the event no payment is due.
- H. **Additional Documents Specified Within the Project Manual:** Provide all additional certificates, warranties, guarantees, bonds or documents as called for in the individual sections of the Project Manual. The Contractor is responsible for examining the Project Manual for these requirements. Failure provide such documents within thirty (30) days of Request for Final Payment shall result in the Owner, in consultation with the Professional, determining a fair market value of such documents with such costs shall be deducted from the balance due the Contractor, or charged to the Contractor in the event no payment is due.

PROJECT RECORD DOCUMENTS

SECTION 01 7800

1.01 DESCRIPTION

- A. **Scope:** To set forth the procedure and requirements for keeping project record documents.

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- B. **Maintenance Documents:**
1. Throughout the Contract, maintain one (1) copy of all of the following: Contract Drawings, Project Manual, Addenda, Change Order(s), reviewed shop drawings, reviewed submittals, hardware schedules, field, and laboratory test records, equipment brochures, parts lists, operating instructions and other modifications to the Contract.
 2. Store documents on site apart from documents used for construction.
 3. Maintain documents in clean, dry, legible condition. Do not use record documents for construction purposes.
 4. Make documents available, at all times, for inspection by the Professional, Commissioning Authority Professional, and the Owner.
 5. Keep documents in 8 ½" x 11" loose leaf binders. Clearly label each binder on the spine. Sub-divide with permanently marked tabs of card stock. Provide a main tab for each specification section. Provide sub-tabs for each major piece of equipment or component.
 6. Format for information behind each tabbed piece of equipment/component shall be:
 - a. Contractor/Installer Information: Include address, phone number and contact name. Include emergency service contact information as applicable.
 - b. Manufacturer Information: Include address, phone number and contact name.
 - c. Shop Drawings and Product Data
 - d. Operation and Maintenance Instructions
 - e. Control Drawings
- C. **Recording:**
1. **General:** Mark all modifications in red pencil. Keep record documents current. Do not permanently conceal any work until required information has been recorded.
 2. **Contract Drawings:** Legibly mark to record actual construction.
 - a. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
 - b. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
 - c. Field changes in dimension and detail.
 - d. Changes made by change order(s) or field order(s).
 3. **Project Manual and Addenda:** Legibly mark up each section to record Manufacturer, trade name, catalog number and Supplier of each product and item of equipment actually installed.
 4. **Shop Drawings:** Maintain as record documents. Legibly mark drawings to record changes made after review.
- D. **Submittal:** At completion of Project, deliver two (2) copies of each record document to the Professional, who will transmit both sets to the Institution or Agency. Additionally, provide to Owner updated As-Built Contract Documents in electronic format utilizing electronic format copy of Contract Documents furnished by Professional or by scanning of marked-up contract Documents.

SPECIAL REQUIREMENTS

SECTION 01 8000

PART 1 - SUMMARY OF WORK SUPPLEMENT

1.01 WORK SEQUENCE

- A. Owner will occupy the building during construction, coordinate with Owner's Representative in scheduling work to vacate the areas as the Contractor requires.
- B. Construct work in stages as follows:
 - 1. _____
 - 2. _____
 - 3. _____

1.02 PARTIAL OWNER OCCUPANCY

- A. Schedule early completion of designated areas for Owner's usage prior to substantial completion of entire Project as follows: _____
- B. Owner will occupy the following areas throughout the Project or during portions of the Project as follows:
Museum Operations will continue during construction, work to be scheduled and coordinated with staff.
- C. Prior to occupancy of any portion of the Project, a *Certificate of Substantial Completion* for designated areas shall be executed establishing responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance for such portion of the Work.

PART 2 - ALLOWANCE SUPPLEMENT

2.01 SCHEDULE OF ALLOWANCES

- A. Include in the Bid, for inclusion in the Contract Sum, the amount of \$ \$175,000.00 for purchase of the Energy Management & Control Systems
(Refer to Section 230900, Energy Management & Control System - General)
- B. Include in the Bid, for inclusion in the Contract Sum, the amount of \$ _____ for purchase of _____
(Refer to Section _____, _____)

PART 3 - ALTERNATE SUPPLEMENT

3.01 DESCRIPTION OF ALTERNATES

- A. Alternate Number One.
- B. Alternate Number Two.
- C. Alternate Number Three.
- D. Alternate Number Four.

Division One

E. Alternate Number Five.

PART 4 – CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

4.01 **SUPPLEMENT FIELD OFFICE**

4.02 **UTILITIES**

4.03 **PROJECT SIGN**

PART 5 – ANTICIPATED DELAYS

5.01 **ADVERSE WEATHER**

PART 6 – INSTITUTION/AGENCY REQUIREMENTS

6.01 **PROHIBITED ACTIVITIES**

6.02 **USE OF PREMISES**