BOOK 2A

STANDARD TERMS AND CONDITIONS PROCEDURES MANUAL FOR DESIGN BUILD CONTRACTS

CONTRACT NUMBERS 1963 to 1979

2013 SCHOOL INVESTMENT PROGRAM PROJECT NUMBER 01 TO 17

PUBLIC BUILDING COMMISSION OF CHICAGO

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SECTION 01010 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

A. The Owner is:

Public Building Commission of Chicago
Richard J. Daley Center
50 West Washington Street, Room 200
Chicago, Illinois 60606

1.2 PROJECT DESCRIPTION

A. The Project name, type of project, and address is stated in Book 1 Section II.

1.3 DEFINITIONS

The definitions set forth in the Standard Terms and Conditions for Construction Contracts are incorporated herein by reference.

1.4 EMERGENCY PROCEDURES

A. Emergency City Services

All emergency City services (police, fire, ambulance) may be contacted by calling 911.

B. PBC and User Agency Contacts

In the event of an emergency, the Commission Representative shall be contacted at the numbers indicated in the Notice to Proceed letter.

PART 2 - EXECUTION

2.1 PRECONSTRUCTION MEETING

A. A preconstruction meeting will be held at a time and place designated by the Commission Representative to identify responsibilities of the Design-Builder, Commission, Commission Representative, and the Commission's Architect and to explain administrative procedures. The Commission Representative will set the due date for Design-Builder's first payment application at the pre-construction meeting.

B. The Design-Builder shall also address the following items at this meeting:

1. Submittal of preliminary construction schedule.
2. Use of the Site.
3. Delivery and storage.

4. Safety.
5. Security.
6. Clean up.
7. Administrative procedures relating to:
   a. Submittals.
   b. Progress meeting schedule.
   c. Change Orders.
   d. Applications for payment.
   e. Record Documents.

C. Attendees shall include:

1. The Commission.
2. The Commission's Architect (if applicable).
3. The Commission Representative.
4. The Design-Builder's superintendent, project manager, architect and mechanical-electrical coordinator.
5. Other parties as directed by the Commission.

2.2 COORDINATION WITH OCCUPANTS

A. ACCESS TO THE PROJECT

1. The area available to the Design-Builder for the performance of the Work is shown on the drawings. Material and equipment storage and field offices shall be confined to the area indicated on the Drawings.

2. Access to the Project will be limited to the routes indicated. The Design-Builder must obtain prior written approval from the Commission Representative for any proposed alternate routes.

3. If the Commission or User continues to occupy portions of the Project during construction, the Design-Builder must schedule and conduct the Work so as to cause the least interference with the operations of the Commission and User.

4. Occupied areas include all areas in which the Commission or User will conduct regular activities, or which will be accessible to the public, and access to such areas.

5. If it is necessary to access or conduct construction operations in occupied areas, review the schedule, and the intended method of separating the Work from the occupants with the Commission Representative. Obtain the Commission Representative's approval of the period, hours and areas to be used prior to commencement of Work.

6. Limit access through occupied areas to those days and times approved by the Commission Representative.

7. Access to and use of existing facilities is permitted only for the performance of the Work and only after approval has been obtained from the Commission Representative.

8. When the following must be interrupted, provide alternate facilities acceptable to the Commission Representative or schedule the interruption for a time when occupancy will not be impaired:

a. Emergency means of egress
b. Utilities and building systems which must remain in operation to allow safe and useful occupancy

2.3 SECURITY PROCEDURES

The following security procedures must be followed by the Design-Builder.

A. Limit access to the Project to persons involved in the Work.

B. Provide secure storage of materials for which the Commission has made payment and which are stored on Site.

C. Secure completed Work prior to occupancy as required to prevent loss.

D. Secure and protect facilities and property of the Commission and User in areas of the Work.

E. Furnish and install fence as detailed in Section 01070-1.2(k) Fencing of this Procedures Manual.

2.4 COORDINATION

A. The Design-Builder must inform the Commission Representative when coordination of Design-Builder's Work with others is required. Notify each party involved, in writing, of the schedule and nature of activities that require such coordination.

B. The Design-Builder must prepare coordination drawings where limited available space may cause conflicts in the locations of installed products, and where required to coordinate installation of products.

1. In particular, prepare coordination drawings showing all piping, duct, cabletrays, electrical ductbanks, and similar items, but not electrical conduit less than 4" in diameter.
2. Where space is limited, show plan and cross-section dimensions of space available, including structural obstructions and ceilings as applicable.
    a. Coordinate shop drawings prepared by separate entities.
    b. Show installation sequence when necessary for proper installation.

2.5 MECHANICAL AND ELECTRICAL COORDINATOR

A. The Design-Builder must provide a staff member or members as necessary who have the responsibility to perform mechanical and electrical coordination as stated in Section 9.05 of Book 2.

1. Qualifications:
    a. Experienced in coordination of mechanical and electrical work on projects of similar type and scale, including administration and supervision.
    b. Approval by Commission Representative.

2. The responsibilities of the mechanical and electrical coordinator are listed in Section 2.5 B through L, below.

B. Coordinate all HVAC, plumbing, fire protection, electrical and site utility work, and coordinate that Work with the other work on the Site.

1. Where space is limited, coordinate arrangement of mechanical, electrical, and other Work to fit.
2. Coordinate cutting and patching activities and sequencing.
3. Coordinate use of temporary facilities.

C. Prepare coordination drawings where required and where indicated.

D. Prepare and maintain a separate schedule of activities which relate to this Work; include:

1. Submittals.
2. Temporary utilities.
3. Commissioning

E. Participate in progress meetings. Report progress, changes required in schedules, and unresolved problems.

F. Review submittals for compliance with the Contract Documents, Commissioning plan, and for coordination with other Work including, but not limited to:

1. Check field dimensions, clearances, relationships to available space, and anchors.
2. Check compatibility with equipment, other Work, electrical characteristics, and operational control requirements.
3. Check motor voltages and control characteristics.
4. Coordinate controls, interlocks, wiring of switches, and relays.
5. Coordinate wiring and control diagrams.
6. Review the effect of changes on other Work.

G. Obtain and distribute installation requirements for each item of equipment requiring mechanical or electrical connections; include:

1. Electrical power characteristics.
2. Control wiring requirements.

H. Observe and maintain record of tests and inspections.

I. Observe Work for compliance with Contract Documents and Commissioning plan, and notify the applicable Subcontractor in writing of deficiencies in the Work.

J. Coordinate and observe start-up, demonstration, and functional testing of equipment and systems.

K. Coordinate maintenance of Record Documents.

L. Assist the Commission Representative and Commission's Architect with final inspections.

END OF SECTION 01010

SECTION 01025 - PAYMENT, CHANGE ORDER, AND SUBSTANTIAL COMPLETION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Schedule of Values.
2. Payment procedures.
3. Modification procedures.
4. Completion procedures.

1.2 CONTRACT TERMS AND CONDITIONS

A. Payments are governed by the requirements of Book 2, the Standard Terms and Conditions of the Contract Documents which are supplemented by the procedures stated here in the Procedures Manual.

B. Payment for material and/or equipment stored on or off Site is intended to facilitate the procurement of long lead job specific items of significant value. Payment for material stored off site is governed by the Standard Terms and Conditions, Article 16, "Payments."

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 SCHEDULE OF VALUES

A. The Design-Builder must prepare and submit a Schedule of Values in hard copy and in electronic version on a CD ROM no later than 15 days subsequent to Notice to Proceed, and no less than 15 days prior to the first Payment Application.

1. Submit hard copy in size not larger than 8 1/2" by 11".
2. Submit four (4) copies.
3. Identify with:
   a. Project name.
   b. Contract number.
   c. Architect's name.
   d. Commission's name.
   e. Design-Builder's name and address.
   f. Submittal date.

B. Schedule of Values: The Design-Builder must break costs down into the line items which will be used in Design-Builder payment applications.

1. Coordinate line items in the Schedule of Values with portions of the Contract Documents which identify units or subdivisions of Work; provide cross-referencing if necessary to clarify.
2. Divide major subcontracts into individual cost items.

3. Where applications for payment are likely to include products purchased or fabricated but not yet installed, provide individual line items for material cost, installation cost, and other applicable phases of completion.
4. Show the following as separate line items:
   a. Material testing.
   b. Operations and maintenance data.
   c. Project Record Documents.
   d. Bond and insurance premiums.
   e. Permit costs.
   f. Overhead and profit.
5. Include the following information for each line item:
   a. Item name.
   b. Applicable specification section.
   c. Dollar value, rounded to the nearest whole dollar (with the total equal to the Base Contract Price).
   d. Proportion of the Base Contract Price represented by this item, to the nearest one-hundredth percent (with the total adjusted to 100 percent).
6. Provide the following supporting data for each line item:
   a. Subcontractor's name.
   b. Manufacturer or fabricator's name.

C. The Commission Representative shall review the Schedule of Values. Should the Commission Representative notify the Design-Builder that the Schedule of Values is not satisfactory, the Design-Builder shall revise and resubmit the Schedule of Values until it is approved.

D. After approval of the Schedule of Values, the Design-Builder may request revisions to the Schedule of Values. It is within the sole discretion of the Commission Representative whether to approve the revisions requested.

3.2 PAYMENT APPLICATION PROCESS

A. The Design-Builder must prepare the Payment Application using standard forms provided in Book 2 of the Contract Documents.

B. Payment Review meetings:

The first pencil draw meeting will be held on the date not more than 10 days prior to the due date of the first payment application, which will have been set at the preconstruction meeting. The due date for each subsequent payment application will be the same day of the month as the due date for the first payment application. If that date falls on a weekend, the payment application will be due the following Monday. If that Monday is a holiday, the payment application is due the following Tuesday. The pencil draw for each payment application will be the date 10 days prior to the due date for that payment application. If the date for the pencil draw falls on a weekend, the pencil draw will be held on the Friday prior to that weekend.

C. Payment Application Format:

1. The documents are to be presented in the following order:

   a. Exhibit A Payment Application Form
   b. Exhibit M Payment Application Form Change Order

c. Exhibit B — Design-Builder's Sworn Statement and Affidavit for Partial Payment
d. Exhibit C — Design-Builder's Waiver of Lien for Partial Payment
e. Exhibit D — Subcontractor's Waiver of Lien To Date and Affidavit

2. All copies of Payment Applications provided to the Commission must have original signatures and original notary seals. If a Subcontractor is applying for final payment, substitute "Sworn Statement and Affidavit for Final Payment" and "Final Waiver of Lien and Contractor's Affidavits" in lieu of items e and f above. Blank copies of the payment application documents are attached as Exhibits to Book 2. The Design-Builder may reproduce these forms as needed.

3. The Design-Builder must report the value of contracts with any Subcontractor, consultant, or material supplier which are greater than one thousand ($1,000.00) dollars as a separate line item on the "Design-Builder's Sworn Statement and Affidavit for Partial Payment" (Book 2, Exhibit B). First-tier subcontractors and all Minority owned business enterprises or Women owned business enterprises who are providing labor or material to the Project , consultants, or material suppliers must submit "Waiver of Lien To Date and Affidavit" (Book 2 Exhibit D – Partial, Exhibit I – Final) for that line item on the Design-Builder's sworn statement. The Partial Waivers of Lien are due as set forth in Section 3.2.F below.

D. Payment Application Process:

1. The Design-Builder must prepare a pencil copy draft of the Payment Application.
2. At the payment review meeting, the Commission Representative and Design-Builder shall conduct a detailed review of the Payment Application. Any errors, inaccuracies, or omissions shall be noted. The Design-Builder shall have available such supporting documentation as the Commission Representative deems necessary to support the application for payment.
3. The Design-Builder shall make all required corrections and revisions and prepare one (1) original hard copy of the payment application and provide to the Commission Representative. The Design-Builder shall, at the same time, submit the payment application electronically through the Commission's designated web based system.

E. General Comments:

1. Contract amounts are to include only those Change Orders that have been approved by the PBC Board of Commissioners as of the close of the current payment period. Payment Applications will be returned for revision if unapproved Change Orders are billed.
2. All Change Orders must be allocated to the affected line items on the sworn statement. Payment Applications will be returned for revision if the total Change Order is added as a new line item on the sworn statement.
3. All amounts reported on the MBE/WBE documents must agree with the corresponding line items on the sworn statement. Submit MBE/WBE participation summary with each application for payment which identifies participation as a percentage of subcontracts.

F. Waivers of Lien:

1. The Design-Builder must present its fully executed "Design-Builder's Waiver of Lien for Partial Payment" (Book 2, Exhibit C) for the net amount of the current Payment Application. One (1) fully executed set of Subcontractor waivers covering payments made

to First-tier Subcontractors and all Minority owned business enterprises or Women owned business enterprises who are providing labor or material to the Project for the prior Payment Application, as provided in Section 16.02.8 of Book 2, must be provided for the current Payment Application. These trailing partial waivers of lien for Subcontractors are to be submitted directly to the Finance Department of the PBC, and are due no later than 30 days after payment has been made to the Design-Builder for the payment application covered by the waiver. The date of payment to the Design-Builder for each payment application is published on the PBC website. In all cases, Subcontractor's "Waivers of Lien To Date and Contractor's Affidavits" (Book 2, Exhibits C [Partial] and H [Final]) must bear original signatures and original notary seals and are to be provided in the order of appearance on the related sworn statement.

2. Prior to the final application for payment, the Design-Builder shall submit a "Final Waiver of Lien and Contractor's Affidavit" (Book 2, Exhibit G) or "Supplier's Final Release and Waiver of Lien" (Book 2, Exhibit K) from every entity who may be legally entitled to file a mechanic's, materialman's, or other lien.

3.3 FIRST PAYMENT PROCEDURE

The following documents are due prior to the first application for payment:

1. Schedule of Values.
2. List of Subcontractors, including addresses.
3. Design-Builder's construction schedule.
4. Submittal schedule.
5. Quality control activities schedule.
6. Unit price schedule (if applicable).
7. Names of the Design-Builder's principal staff assigned to the Project.
8. Names of the Design-Builder's representatives authorized to sign invoices and waivers.
9. Copies of building permit and other authorizations from governing authorities.
10. First progress report.
11. Minutes of the preconstruction meeting.
12. All submittals specified to occur prior to the first application for payment.

3.4 CHANGE ORDER PROCEDURES

A. The Design-Builder must designate a single individual authorized to receive Change Orders and who will be responsible for informing others of changes to the Work.

B. Changes in cost resulting from Change Orders shall include only those costs provided in Section 16.03.1 of Book 2.

C. The Design-Builder shall provide sufficient information for evaluation of proposed changes within fourteen (14) days following receipt of a Field Order. The Design-Builder shall immediately advise the Commission in writing if any requested Bulletin can not be priced and submitted to the Architect within fourteen (14) days of receipt. The Commission Representative will determine if additional time is warranted, and will so notify the Design-Builder of its determination. In no case shall the Design-Builder be allowed more than (21) days for pricing of a Bulletin. The Design-Builder shall not be entitled to a time extension should its proposal not be received by the Architect prior to the required time. Such information shall include:

1. The amount of change in the Base Contract Price, if any.
2. The amount of change in the Contract time, if any, with explanation.
3. Cost breakdown, using Schedule of Values line items, separated into material and labor costs, additions and deletions, and with overhead and profit handled in the same manner as specified for the Schedule of Values.
4. The period of time within which the proposed changes in Base Contract Price or time will be held. At a minimum, the pricing shall be held until the next Commission meeting. Should said proposal be received by the Architect or Commission Representative beyond the cut-off date established by them for the upcoming Commission meeting, then the Design-Builder shall maintain its proposed price and schedule impact until the next Commission meeting.
5. Quantities and unit costs of products, labor, and equipment.
6. Taxes, insurance, and bonds.
7. Impact on MBE/WBE, Local Subcontractor and Community Hiring compliance
8. Overhead and profit.

D. The Design-Builder may propose changes pursuant to Section 17.03 of Book 2.

1. Do not use change order form.
2. Provide the information required for Change Proposal Requests.
3. Describe reasons for change.

3.5 SUBSTANTIAL COMPLETION PROCEDURES

A. The Design-Builder may make its request for inspection and provide its Payment Application at the same time.

B. At the request of the Design-Builder, the Commission Representative will perform an inspection for Substantial Completion for each phase or location of the Project.

C. The following activities must be completed prior to Design-Builder's request for inspection to ascertain Substantial Completion:

1. Delivery of maintenance materials and tools.
2. Demonstration of all equipment and systems, including but not limited to, submission of test and balance reports, manufacturer's start-up reports, or other documents required by the Contract Documents.
3. Instruction of the Commission's and/or User's personnel.
4. Removal of temporary facilities.
5. Changeover to permanent locking systems.
6. Final cleaning.
7. The Commission has been informed in writing of necessary procedures for changing over insurance coverage.
8. The Commission has been informed in writing of procedures for changing over operation, maintenance, security, etc.
9. All other activities specified to occur prior to Substantial Completion have been completed.
10. Commissioning functional performance testing.
11. The Commission has been informed in writing, by the Design-Builder, of procedures for changing over from temporary utilities by Design-Builder to permanent service by owner. Include local utility, company name, contact, phone, and account numbers.

Include schedule for termination, removal of temporary utility, and restoration. Arrange a date with Commission for service change over.

D. The Design-Builder must submit the following with the payment application following Substantial Completion:

1. Meter readings of all utilities services for which the Design-Builder has been paying.
2. Final list of incomplete Work.
3. Other data required by the Contract Documents.

3.6 FINAL COMPLETION AND ACCEPTANCE PROCEDURES

A. The Design-Builder must not submit request for inspection for Final Completion and Acceptance of the Work until the following submittals have been made:

1. List of completed Punch List Work.
2. Start-up reports.
3. Final testing, adjusting, and balancing reports.
4. Demonstration reports.
5. Instruction reports.
6. Warranties.
7. Maintenance agreements.
8. Operation and maintenance manuals.
9. Final progress photographs.
10. Project Record Documents.
11. All other submittals specified to occur prior to Substantial Completion.

B. The following activities must be complete prior to Design-Builder's request for final inspection:

1. Completion of all Punch List Work, except those items agreed upon by the Commission.
2. All activities specified to occur between Substantial Completion and Final Completion and Acceptance have been completed.

C. At the request of the Design-Builder, the Commission Representative may perform one inspection for Final Completion and Acceptance for each phase or location of the Project.

1. The Design-Builder must submit the following with its request for inspection:
   a. Previous inspection lists indicating completion of all Punch List Work.
   b. Written approval for any incomplete Punch List Work.
2. If the Commission Representative is unable to issue the certificate for Final Completion and Acceptance because the Work is not complete, the Design-Builder shall pay all subsequent inspection costs, including compensation for the Architect's services and expenses.

D. The Design-Builder must not submit its request for final inspection until all other outstanding specified submittals and items stated in "3.6A" and "3.6B" above have been completed.

E. The Design-Builder must submit the following with the final payment application:

1. Certified copy of the Punch List Work, stating that each has been completed or otherwise resolved for acceptance.
2. Updated final statement, accounting for final changes to the Base Contract Price.
3. Final liquidated damages statement.
4. Meter readings of all utilities services which the Design-Builder paid after Substantial Completion.
5. Certification that financial obligations to governing authorities and public utilities have been fulfilled.
6. Description of unsettled claims.
7. Certificates of insurance for all coverages specified to commence at Final Completion and Acceptance.
8. Other data required by the Contract Documents including, but not limited to the requirements of Book 2, Section 16.08.2.

3.7 LABOR COMPLIANCE REPORTS

A. Each contractor and every lower-tier subcontractor and supplier shall be required to submit certified payrolls and labor compliance documentation electronically at the discretion of and in the manner specified by the Commission.

B. Electronic submittal will be via a web-based system, accessed on the World Wide Web by a web browser. Each contractor and subcontractor will be given a Log On identification and password to access the Commission's reporting system.

C. Use of the system shall include additional data entry of week payroll information including: employee identification, labor classification, total hours worked and hours worked on this project, wage and benefit rates paid, etc. in the manner specified by the Commission..

D. This requirement will be "flowed down" to every lower-tier subcontractor and material supplier required to provide labor compliance documentation.

END OF SECTION 01025

SECTION 01070 - PROJECT CONDITIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. General Project conditions.

1.2 PROJECT CONDITIONS

A. The Design-Builder must comply with the obligations stated in Section 1.2 B through V.

B. Existing buildings and Site may be occupied during the period of the Work. Avoid interference with use of such areas and interruption of access to them.

C. Take precautions to prevent fires and to facilitate fire-fighting operations.

1. Keep temporary and permanent fire fighting facilities readily accessible; keep fire fighting routes open.
2. Do not allow smoking in areas where highly combustible or explosive materials are present.
3. Carefully supervise the operation of potential fire sources, including heating units.
4. Conduct welding operations in manner to prevent fire; comply with local regulations.
5. Provide personnel for fire watch during welding operations.

D. Take precautions to prevent accidents due to physical hazards:

1. Provide barricades, warning lights, or signs as required to inform personnel, building occupants and the public of the hazard being protected against.
2. Safety barricades: Comply with regulations.
3. Provide temporary walkways where walking surfaces are hazardous.
4. Notify the Commission before beginning Work that involves hazardous operations.

E. Take care to prevent pollution of air, water, and soil.

1. Comply with environmental protection regulations.
2. Do not dump contaminates in areas that will result in contamination.
3. In partially occupied facilities where Work is to be performed, provide dustproof partitions to isolate Design-Builder's work activities from building occupants and the public.
4. All access corridors requiring use by the User shall be maintained in a clean condition and free of construction materials and debris.

F. Minimize discharge of effluent and rainwater runoff into sewers.

1. Control sediment discharge into sewers; filter out construction debris, soil, and contaminants.
2. Comply with regulations and orders of public utilities regarding use of sewers.
3. Where disposal of effluent or rainwater by means of sewers is not lawful or is not possible, provide alternative methods of disposal.

G. Prevent erosion due to rainwater runoff.

H. Control windblown dust; prevent erosion to Site and nuisance to neighbors.

I. Prevent flooding of excavations, below-grade construction, and adjacent properties due to rainwater runoff or water table.

J. Protect property indicated to remain, including:

1. Plants and trees, as indicated on the Drawings.
2. Existing property, as indicated on the Drawings.
3. Existing drive and parking lot paving and sidewalks.

K. Fencing:

1. Furnish , install, and maintain new chain-link fence at boundary lines of all Sites included in this contract or added to this contract by change order. In addition, Design-Builder must maintain existing fencing. Where two or more parcels comprise a contiguous Site, the fence should surround the entire Site.

2. Material:
   a. 9 gauge 2" galvanized steel mesh, 8 feet high
   b. 3" outside dimension galvanized end posts with caps
   c. 2" diameter outside dimension galvanized line (intermediate) posts
   d. 10 ft. max. center to center, with caps
   e. 1-5/8" outside dimension galvanized top and bottom rails
   f. 12 gauge min. galvanized ties
   g. Required fittings for proper installation of above.
   h. Opaque fabric meshing affixed to fence as required by Chicago Municipal Code Section 13-32-125.

3. Method:
   a. Unless otherwise indicated on the drawings, posts are to be set at a depth of no less than 3'0" below ground level and anchored in concrete to full depth. Posts shall be properly capped. End posts and line posts will be evenly spaced at a distance of no more than 10'-0" apart, center to center. Fence shall be erected with top and bottom rails of 1-5/8" o.d. and ties of no less than 12 gauge, securing the galvanized steel mesh to the rails. The bottom rail shall be placed at a distance of no greater than 2" from the bottom of the posts and shall be secured by the use of proper fittings to corner and intermediate posts. Top rail shall run continuously through line post caps and shall be fastened to end posts no less than 2" from the top by the use of proper fittings.

   b. Galvanized steel mesh shall be 8 feet high installed on outside of posts with salvage edge on top. Ties to be 12 gauge min. spaced as per ASTM F567 "Practice for Installation of Chain-Link Fence".

   c. Gates: Double 8'-0" gate with welded frame and galvanized hinges and hardware and full height fabric as per specification. Locations and number as indicated. Coordinate installation of additional gates with Commission Representative. Additional gates to be installed at Design-Builder's cost.

   d. Opaque fabric mesh "shall be affixed to the construction site fence. Such fabric meshing shall be capable of allowing air to pass but impervious to dust and dirt. The fabric meshing shall be of a fineness such that no material over 1/8 inch in

size or material splatters, laitance or other products of the construction operation shall pass through the mesh. Such mesh fabric shall be the full height of the fence and cover the entire length of the fence including any gated openings. The fabric meshing and fence shall not contain any advertisements." Chicago Municipal Code Section 13-32-125(2)(a).

L. Adverse Weather Conditions.
   1. In the event of adverse weather conditions that may cause downed fences, flying debris, damage to the site or damage from the site to the public or public right of way, the Design-Builder must take immediate action to secure the site to prevent damage or injury to the public or damage to the site. The Design-Builder must notify the Commission Representative as to the condition of the site immediately after inspection.

M. Do not use tools or equipment which produce harmful levels of noise.

N. Keep the Site and adjacent public ways free of hazardous and unsanitary conditions and public nuisances.

O. Control rodents and other pests; prevent infestation of adjacent sites and buildings due to pests on the Site.

P. Keep public right of way streets and sidewalks free of debris due to the Work. Public right of way, street and sidewalk cleaning and debris removal shall be performed regularly and when requested by the Commission Representative.

Q. Provide adequate traffic control by means of signs, signals, and flagmen, as necessary.

R. Provide temporary means of draining roofs where required.

S. Conduct construction operations so that no part of the Work and no part of the existing construction is subjected to damaging operations or influences which are in excess of those to be expected during normal occupancy conditions.

T. Conduct construction operations so that waste of power, water, and fuel is avoided.

U. Provide temporary supports as required to prevent movement and structural damage or failure.

V. Install products only during environmental conditions which will ensure the best possible results.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01070

SECTION 01200 - PROGRESS DOCUMENTATION AND MEETINGS PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Progress documentation requirements:
   a. Design-Builder's Construction Schedule.
   b. Shop Drawing and Submittals Schedule.
   c. Progress Reports.
   d. Record Documents.

2. Progress procedures:
   a. Progress meetings.

B. Contract time is indicated in Part I "Project Information" of Book 2.

1.2 SUBMITTAL REQUIREMENTS

A. Design-Builder's Construction Schedule:

1. Submit sample for review at preconstruction meeting.
2. Submit within fifteen (15) Days of Notice to Proceed date.
3. Submit updated schedule at each monthly payment application review meeting and after each major change in the schedule.

B. Shop Drawings and Submittals Schedule:

1. Submit schedule with "Design-Builders Construction Schedule."

C. Progress Reports:

1. Daily Construction Logs
   a. Submit previous weeks' reports to Commission Representative at weekly progress meeting.

2. Monthly Progress Reports:
   a. Submit sample for review at preconstruction meeting.
   b. Failure to submit will result in delay to processing of Application for Payment.

3. Monthly Progress Photographs:
   a. Include in Monthly Progress Report, and submit at each monthly payment application review meeting.

D. Record Documents:

1. Maintain current set at Site for reference and review by Architect and Commission Representative.
2. Submit to Commission Representative following Substantial Completion, and before Final Completion and Acceptance.

1.3 FORM OF SUBMITTALS

A. Photographs: Full color prints.

1. Size 8" x 10", full bleed (borderless).
2. Print on commercial-grade paper.
3. Glossy finish.
4. Provide three (3) prints of each view.
5. Provide thorough photographic documentation of existing conditions.
6. Submit negatives with prints.
7. Identify each print on back with:
   a. Project name.
   b. Architect's name.
   c. Design-Builder's name.
   d. Photographer's name and address.
   e. Photograph date.
   f. Position and direction from which photo was taken.
8. Identify each print on front in margin with Project name and date taken.
9. Mount on 8 1/2" x 11" stock punched for 3-ring binder.
10. Also provide compact disc with electronic media of photos in JPEG and RAW.

1.4 QUALITY ASSURANCE

A. Network Analysis Procedures:

1. Train appropriate Project personnel in proper methods of providing data and of using schedule information.
2. Establish procedures for monitoring and updating the schedule and for reporting progress.

1.5 COORDINATION

A. In preparation of schedules, take into account the time allowed or required for the Commission Representative to review submittals identified for Commission review.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. The schedule must be provided as detailed in Section 10.02 "Design-Builder's Construction Schedule" of Book 2.

3.2 SHOP DRAWINGS AND SUBMITTALS SCHEDULE

A. The Design-Builder must comply with the provisions of Technical Specifications Section 01300 - Submittals.

3.3 PROGRESS REPORTS

A. Daily Construction Logs: Every day, the Design-Builder must record the following information concerning events at the Site in a format acceptable to the Commission Representative:

1. Weather conditions; high and low temperatures.
2. Approximate number of persons working at the Site, by trade or Contractor.
3. Visitors to the Site.
4. Modifications to the Contract received; modifications implemented.
5. Delays; reasons for delay.
6. Emergencies and accidents.
7. Equipment and system start-ups and tests.
8. Field quality control activities conducted.
9. Losses of material and property.
10. Meetings held and significant decisions made.
11. Names of subcontractors at Site.
12. Orders and requests of representatives of governing authorities.
13. Unusual events.
14. Utility service disconnections and connections.

B. Monthly Progress Reports: The Design-Builder must prepare a narrative report describing the general state of completion of the Work and describing in detail the following:

1. Actual and anticipated delays, impact on the schedule, and corrective actions taken or proposed.
2. Actual and potential problems.
3. Status of Change Order Work.
4. Effect of delays, problems, and changes on the schedules of other prime Contractors.
5. Outstanding change proposal requests.
6. Status of corrective work ordered by the Commission.

3.4 WEEKLY PROGRESS MEETINGS

A. The Design-Builder must schedule and conduct weekly progress meetings during construction period. Conduct additional progress meetings as directed by the Commission Representative as required by the progress of the Work.
   1. Hold meetings at the Design-Builder's field office.
   2. As often as practical, hold meetings on the same day of the week at the same time of day. When it is necessary to change the day or time of the meeting, notify the Commission Representative of the change a minimum of three (3) business days prior to the normal meeting day or the revised day, whichever is earlier.

B. The following are required to attend:
   1. Project superintendent, project manager and key support staff.
   2. Major Subcontractors.
   3. Commission Representative.

C. The Commission Representative shall prepare and distribute agenda prior to meetings; cover the following topics when applicable:

1. Review minutes of previous meeting.
2. Status of submittals and impending submittals.
3. Actual progress of activities in relation to the schedule.
4. Actual and anticipated delays, their impact on the schedule, and corrective actions taken or proposed.
5. Actual and potential problems.
6. Status of corrective work ordered by the Architect.
7. Progress expected to be made during the next period.

D. The Architect or Commission Representative shall record minutes and distribute copies to the participants and to all entities affected by decisions made.

3.5 PREINSTALLATION AND PREFABRICATION CONFERENCES

A. The Design-Builder shall call these conferences where required by the individual Specification sections for the purpose of reviewing product selections, procedures for executing work, and coordination with or among Subcontractors. The place, date, and time of these conferences shall be scheduled by the Design-Builder after coordination with the Commission Representative. Do not schedule these conferences until the Subcontractor executing the work has made the submittals called for in the Contract Documents and they have been returned to the Design-Builder "Approved" or "Approved as Noted" by the Architect; and when the Subcontractor executing the work has made the quality control submittals called for in the Contract Documents and their receipt has been acknowledged to the Design-Builder by the Architect. The following parties shall attend these conferences:

1. The Design-Builder.
2. The Design-Builder's Mechanical, Electrical, Plumbing and Fire Protection coordinator.
3. The Subcontractor executing the work.
4. Subcontractors affected by the work.
5. Manufacturer's representatives.
6. The testing laboratory, when applicable.
7. The Commission Representative.
8. The Commission's Commissioning Agent (when applicable)

B. Date, time, and place of meetings are to be acceptable to the Commission, the Commission Representative, and the Architect.

3.6 DOCUMENT CONTROL ELECTRONIC REQUIREMENT

A. Upload electronically all project documents on the Commission's website as directed by the Commission Representative. Attend training as directed by the Commission Representative.

END OF SECTION 01200

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Preparing and processing of submittals for review and action.
2. Preparing and processing of informational submittals.

B. The Design-Builder must submit the following Submittals identified by the Commission as requiring Commission review:

1. Shop drawings.
2. Structural design information required by the Contract Documents.
3. Product data.
4. Samples.

C. The Design-Builder must submit the following Submittals identified by the Commission to be submitted for Commission information:

1. Certificates.
2. Coordination drawings.
3. Reports.
4. Qualification statements for manufacturers/installers.
5. Submittals for which procedures are not defined elsewhere.

D. Specific submittals are described in individual sections.

E. The Design-Builder must not commence Work which requires review of any submittals until receipt of returned submittals with an acceptable action.

F. The Design-Builder must not provide submittals without an acceptable action marking to be used for the Work.

G. The Design-Builder must provide all submittals to the Commission Representative through the OCDM System.

H. Related Sections: The following are specified elsewhere in Division 1:

1. Quality control submittals:
   a. Quality control activities schedule.
   b. Inspection reports.
   c. Test reports.

1.2 DEFINITIONS

A. Shop Drawings include:

1. Drawings, diagrams, schedules, and other data specially prepared for the work on this Project by the Design-Builder, Subcontractor, sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

2. Shop or plant inspection and test reports, when made on specific materials, products, or systems to be used in the Work.

B. Product Data: Illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Design-Builder to illustrate materials or equipment for some portion of the Work. The data shall be supported by sufficient descriptive material, such as catalog cuts, diagrams, and other data published by the manufacturer, as well as by evidence of compliance with performance standards, to demonstrate conformance to the Specification requirements. Catalog numbers alone are not acceptable. The data shall include, but shall not be limited to, the name and address of the nearest service and maintenance organization that regularly stocks repair parts. Partial lists shall not be reviewed, unless otherwise noted. Review of materials and equipment is tentative, subject to submission of complete shop drawings indicating compliance with the Contract Documents.

C. Samples: Physical samples which illustrate materials, equipment, or workmanship and establish the visual standards by which the work shall be judged. Samples will be reviewed for color and appearance only. Compliance with all other requirements will be the exclusive responsibility of the Design-Builder.

D. Design Data: Calculations compiled by an engineer or other licensed professional registered in the State where the Project is located, for the Design-Builder to document the performance characteristics of a building system or building component.

E. Test Reports and Concrete Mix Designs: Reports of test procedures carried out by an approved licensed testing laboratory, manufacturer, supplier, or distributor to verify that materials and equipment used in the work comply with the Contract Documents.

F. Informational Submittals: Submittals identified in the Contract Documents are to be submitted for information only.

1.3 FORM OF SUBMITTALS

A. Large sheets:

1. Sheet size: 30" x 42".
2. Number of copies:
   a. Submittals for review:
      1) Four (4) hard copy prints.
   b. Informational submittals:
      1) Six (6) copies of opaque prints.
      2) One (1) may be returned.

B. Small Sheets or Pages:

1. Sheet size: 8 1/2" x 11," or 8 1/2" x 14" (folded), 11" x 17" (folded).
2. Number of copies:
   a. Submittals for review: six (6) copies, two (2) of which will be returned.
   b. Informational submittals: Three (3) copies, none of which will be returned.

C. Samples:

1. Range Samples: Where a visually apparent range of color, graining, texture, or other characteristic is anticipated in finished products, furnish the number of range samples necessary to indicate the full range of characteristics of the finished product, but in no case submit less than three sets of range samples.

2. Other Samples: Three each.

3. One (1) sample or set of samples will be returned.

4. If additional sets are needed by other entities involved in Work represented by the samples, submit with original submittal.

D. Unless otherwise requested on the transmittal, copies in excess of the number requested will not be returned.

E. Proposing Substitution
   1. In the event the Design-Builder is proposing a substitution, it must submit the completed form found at the end of Section 01300.

1.4 COORDINATION OF SUBMITTALS

A. The Design-Builder must coordinate submittals and activities that must be performed in sequence, so that the Commission has enough information to properly review the submittals identified as requiring Commission review or submission.

B. The Design-Builder must provide complete submittals for each separate and definable system or subsystem and shall include the items necessary to define and explain the system or subsystem, including, but not limited to, its performance and installation. Such items shall consist of product data, materials lists, shop drawings, samples, design data, test reports, and certificates as required by the Specifications. Combine the submittal items for each system or subsystem and submit them together as a single submittal.

C. The Design-Builder must coordinate submittals of different types for the same product or system so that the Commission has enough information to properly review submittals identified as requiring Commission review or submittal.

1.5 LIST OF SUBMITTALS

A. Design-Builder shall prepare a schedule of all required submittals and submit to the Commission Representative within seven (7) days of Notice to Proceed date and before any materials, equipment, or fixtures are purchased. An updated schedule that identifies the submittals for the next ten (10) days shall be issued at each monthly progress and payment review meeting.

   1. Include all submittals required by the Contract Documents.
   2. Organize the schedule by the applicable Contract Document section number.
   3. Indicate the submittal date scheduled for each required submittal.
   4. Indicate the type of each submittal (i.e., schedule, shop drawing, product data, samples, etc.)

5. Indicate which submittals required by separate provisions of the Contract Documents are to be submitted and reviewed simultaneously because they describe related work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 TIMING OF SUBMITTALS

A. The Design-Builder must transmit each submittal at or before the time indicated on the approved schedule of submittals.

B. The Design-Builder must deliver each submittal requiring approval in time to allow for adequate review and processing time, including resubmittals if necessary. Schedule shall allow for one resubmittal for each item submitted. Failure of the Design-Builder in this respect will not be considered as grounds for an extension of the time for performance of the Contract.

C. The Design-Builder must deliver each informational submittal prior to start of the Work involved, unless the submittals is of a type which cannot be prepared until after commencement of the Work. In such a case, submit promptly.

D. If a submittal must be processed within a certain time in order to maintain the progress of the Work, the Design-Builder must state so clearly on the submittal.

E. The Design-Builder must allow adequate time for Commission review of submittals identified as requiring Commission review or approval. Coordinate submittals to allow for Commission review of related submittals.

F. The Design-Builder must allow a minimum of seven (7) calendar days for processing of resubmittals.

G. If a submittal must be delayed for coordination with other submittals not yet submitted, the Commission Representative may at its option either return the submittal with no action or notify the Design-Builder of the other submittals which must be received before the submittal can be reviewed.

3.2 SUBMITTAL PROCEDURES - GENERAL

A. Design-Builder Review: The Design-Builder must sign each copy of each submittal to certify that the Design-Builder has reviewed that submittal and found it to be in compliance with the requirements of the Contract Documents.

B. The Design-Builder must notify the Commission Representative, in writing and at time of submittal, of all points upon which the submittal does not conform to the requirements of the Contract Documents, if any.

C. Where the Work of multiple trades or Subcontractors must be coordinated or the Work is otherwise related, the Design-Builder must submit all related submittals identified by the Commission as requiring Commission review or approval together to allow for simultaneous review.

D. Preparation of Submittals:

1. Included with each submittal shall be a fully executed transmittal form.
2. Label each copy of each submittal, with the following information:
   a. Project name.
   b. Date of submittal.
   c. Design-Builder's name and address.
   d. Commission's name and address.
   e. Subcontractor's name and address.
   f. Supplier's name and address.
   g. Manufacturer's name.
   h. Specification section where the submittal is specified.
   i. Other necessary identifying information.
3. Pack submittals suitably for shipment, if applicable.
4. Submittals to receive Commission's action marking: Provide blank space on the label or on the submittal itself for action marking; minimum 4" wide x 5" high.

E. Transmittal of Submittals shall be done through the Commission's ODCM System as directed by the Commission Representative:

1. Submittals will be accepted from the Design-Builder only. Submittals received from other entities will be returned without review or action.
2. Submittals received without a transmittal form will be returned without review or action.
3. The Design-Builder must fill out a separate transmittal form for each submittal: also include the following:
   a. Other relevant information.
   b. Requests for additional information.
4. Submittals shall be issued to the Commission Representative for review.

3.3 SHOP DRAWINGS

A. Content: The Design-Builder must include the following information:

1. Dimensions, at accurate scale.
2. All field measurements that have been taken, at accurate scale.
3. Names of specific products and materials used.
4. Details, identified by contract document sheet and detail numbers.
5. Show compliance with the specific standards referenced.
6. Wiring Diagrams: Accompany shop drawings with specific wiring diagrams and instructions on equipment controls or devices which are to be furnished. The diagrams and instructions shall not be of a general nature, but shall be modified to be specific to this Project. Include identical diagrams and instructions for the installation of the equipment and identical diagrams in the operation and maintenance manuals. Wiring diagrams shall indicate interconnection between pieces of electrical equipment.
7. Coordination requirements; show relationship to adjacent or critical work.
8. Name of preparing firm.

B. Preparation:

1. Reproductions of Contract Documents are not acceptable as shop drawings.
2. Copies of standard printed documents are not acceptable as shop drawings.

3. Identify as indicated for all submittals.
4. Space for Architect's action marking shall be adjacent to the title block.

3.4 PRODUCT DATA

A. The Design-Builder must submit all product data submittals for each system or unit of Work as one (1) submittal.

B. When product data submittals are prepared specifically for this Project (in the absence of standard printed information) the Design-Builder must submit such information as shop drawings and not as product data submittals.

C. Content Requirements for Design-Builder:

1. Submit manufacturer's standard printed data sheets.
2. Identify the particular product being submitted; submit only pertinent pages.
3. Show compliance with properties specified.
4. Identify which options and accessories are applicable.
5. Include recommendations for application and use.
6. Show compliance with the specific standards referenced.
7. Show compliance with specified testing agency listings; show the limitations of their labels or seals, if any.
8. Identify dimensions which have been verified by field measurement.
9. Show special coordination requirements for the product.
10. Cross out information which is not applicable to the Work.
11. Supplement product data to provide additional information which is applicable to the Work.
12. Show dimensions and clearances required.
13. Submittal data shall include, but shall not be limited to, the following:
    a. A list of qualification, departure, or deviation from the requirements of the Contract Documents.
    b. Shipping and operating weights, including, but not limited to, the support points and weight per point.
    c. Installation data consisting of dimensions, setting details, vibration isolation, number of components or sub-assemblies, erection instructions, and anchoring methods and locations.
    d. Performance data consisting of specific design capabilities at the specified design conditions.
    e. Detailed piping, wiring, and instrumentation diagrams.
    f. Warranty period (months), start-up service (worker days), and time period (worker-days) for instructing the Commission's personnel in operation and maintenance.
    g. Manufacturer and model number of motor along with electrical and mechanical control accessories furnished with the equipment.

3.5 SAMPLES

A. Samples, Requirements for Design-Builder:

1. Provide samples that are the same as proposed product.
2. Where selection is required, provide full set of all options.
3. Where products are to match a sample prepared by other entities, prepare sample to match.

4. Submit full-size, fully fabricated samples cured and finished as specified and physically identical with the material or product proposed. Samples include, but shall not be limited to, partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.

    a. Mount, display, or package samples in the manner specified to facilitate review of qualities indicated. Prepare samples to match the Architect's sample. Include the following:

        1) Generic description of the sample.
        2) Sample source.
        3) Product name or name of manufacturer.
        4) Compliance with recognized and specified standards.

    b. Submit samples for review of kind, color, pattern, and texture for a comparison of characteristics between the final submittal and the actual component as delivered and installed. Where a perceivable range is accepted by the Architect, members installed that are abutting or within six inches of each other in the final construction shall not vary by more than ½ the accepted range.

    c. Refer to other Specification sections for requirements for samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.

    d. Refer to other sections for samples to be returned to the Design-Builder for incorporation in the Work. Such samples shall be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of sample submittals.

5. Where samples are for selection of color, pattern, texture, or similar characteristics from a range of standard choices, submit a full set of choices for the material or product.

B. Preparation, Requirements for Design-Builder:

1. Attach a description to each sample.
2. Attach name of manufacturer or source to each sample.
3. Where compliance with specified properties is required, attach documentation showing compliance.
4. Where there are limitations in availability, delivery, other similar characteristics, attach description of such limitations.
5. Where samples are specified to be returned for installation in the Work, indicate such requirement on transmittal form.
6. Where selection is required, the first submittal may be a single set of all options; after return of submittal with selection indicated, submit standard number of sets of selected item.

C. Keep final sample set(s) at the Site, available for use during progress of the Work.

3.6 REVIEW OF SUBMITTALS

A. Submittals for approval will be reviewed, marked with appropriate action, and returned.

B. Informational submittals: Submittals will be reviewed and marked Reviewed or Rejected. Transmittal form, only, will be returned.

3.7 RETURN, RESUBMITTAL, AND DISTRIBUTION

A. Submittals will be returned to the Design-Builder by mail.

B. Perform resubmittals in the same manner as original submittals; indicate all changes other than those requested by the Architect.

C. Distribution, Requirements for Design-Builder:

1. Distribute returned submittals to all Subcontractors involved in Work covered by the submittal.
2. Make extra copies for operation and maintenance data submittals, as required.
3. Make one (1) copy for Record Documents.
4. Record distribution on transmittal form with copy to Architect.
5. Submit three (3) opaque copies of all transparency submittals to Architect as part of the distribution.

3.8 DOCUMENT CONTROL ELECTRONIC REQUIREMENT

A. Upload electronically all project documents on the Commission's on-line document management and control System as directed by the Commission Representative.

END OF SECTION 01300

FORM FOR PROPOSING SUBSTITUTION

PROJECT NAME

TO: [INSERT COMMISSION]
[ADDRESS]
[CHICAGO, IL ZIP CODE]

CC: [OWNER'S REPRESENTATIVE]

INSTALLER: _____ PHONE: _____
Name of Subcontractor

ADDRESS: _____

_____

1. Specification Section: _____ Paragraph: _____

2. Reason for Substitution:

_____

_____

_____

_____

3. Proposed Substitute:

   A. Name and Model No. _____

   B. Manufacturer: _____

      Address: _____

      Phone Number and Person to Contact: _____

   C. Attach applicable performance and test data.

   D. Numbers of applicable reference standards: _____

   E. Attach a color chart, if applicable.

   F. Attach installation instructions.

4. Manufacturer's Reputation: Attach evidence of manufacturer qualifications and reputation for prompt delivery and efficiency in servicing products, as applicable.

5. Comparison: Attach an itemized comparison of the proposed substitution with product specified, including test performance data.

6. Changes in Work: Attach data relating to changes required in other work to permit use of proposed substitution and changes required in construction schedule.

7. Previous Installation: Attach list of not less than 5 similar projects on which proposed substitution was used. List projects in the Chicago area. List name and address of project, date of installation, and name, address, and phone number of Architect.

8. Cost Data: Attach accurate cost data on proposed substitution in comparison with product specified.

9. In making request for substitution, Design-Builder represents that:

   a. It has examined the Drawings and Specifications and has determined that, to the best of its knowledge, the proposed substitution is appropriate for the use intended in the Drawings and Specifications, and will perform as well as or better than the specified product.
   b. It will provide the same warranties for substitution as for product specified.
   c. It will coordinate installation of accepted substitution into Work, making such changes as may be required for Work to be complete in all respects.
   d. It waives all claims for additional costs related to substitutions that consequently become apparent.
   e. Cost data is complete and includes all related costs under its Contract.

_____
Name of Manufacturer

_____
Signature of Manufacturer's Representative

_____
DATE

_____
Name of Installer

_____
Signature of Installer's Representative

_____
DATE

_____
Name of Design-Builder

_____
Signature of Design Builder's Representative

_____
DATE

END OF SECTION

SECTION 01400 - QUALITY CONTROL PROCEDURES AND PRODUCT STANDARDS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. General quality control activities.
2. Procedures for submittal of quality control documentation.

B. Quality control activities required are specified in other sections.

C. Related Sections:

1. Design-Builder's construction schedule: Elsewhere in Division 1.
2. Submittal procedures: Elsewhere in Division 1.

1.2 DEFINITIONS

A. Certificate: A written statement that a portion of the Work as accomplished or a particular product conforms to the requirements of the Contract Documents.

1.3 SUBMITTALS

A. The Design-Builder Quality Program (DBQP), to be provided by Design-Builder, must include the items listed below. Design-Builder must submit its Design-Builder Quality Plan to the Commission Representative for review and approval.

1. Management Responsibility (Responsibility, Accountability, Authority, Organizational, and Technical Interfaces) General quality control activities.

a. The DBQP must declare and document the commitment to quality by the Design-Builder's executive management.

b. The DBQP must contain an organization chart illustrating lines of authority and the interrelationship of those responsible for executive management, project management, and quality functions. It must describe the quality organization in detail and identify personnel responsible for: initiating action to prevent quality problems, identifying and recording quality problems, initiating solutions, and verifying implementation of solutions to quality. It must include the resumes of key personnel for Commission review.

c. The Design-Builder must assign at a minimum, a full-time Quality Representative (QR) to this project who will implement and administer the DBQP and have the authority to act in all quality matters for the Design-Builder. The QR must be qualified for the position by education, training, and experience. Qualification must be demonstrated by a description of education, training, and previous quality assignments, with related duties and responsibilities, for a period sufficient to establish the appointee's quality management experience. The QR is subject to approval of the Commission.

d. The Design-Builder must maintain a quality control staff of sufficient size and composition under the direction of the QR to perform all Design-Builder quality control activities in order to ensure contract compliance whether the work is performed by the Design-Builder's own staff or by Subcontractors. Personnel responsible for quality must be suitably trained and qualified for the quality activities they are assigned. The Design-Builder's quality control organization may vary as the project progresses; however, at all times it must be compatible with the level of effort and capability required by the Contract.

e. Personnel responsible for quality verification must have the necessary authority and independence to perform their roles effectively; they must be independent of those having direct responsibility for the work being performed. This can be accomplished if those ensuring or controlling quality report on a higher level than those having direct responsibility for the work. The QR and those individuals responsible for cost, construction, schedule, or production shall not be the same individual.

f. The Design-Builder's management must conduct periodic reviews of the DBQP to assess the suitability and effectiveness of the DBQP in satisfying the requirements stated in the Design-Builder's quality policy. The Design-Builder shall document these reviews.

2. **Documented Quality System.**

a. The Design-Builder must develop, implement, and maintain a documented quality system to ensure that project quality objectives are satisfied. The structure of the documented quality system must identify those construction activities that must be performed to achieve constructed facilities capable of performing designed functions.

b. As a minimum, the documented quality system must include written policies and procedures for the following:

(1) A management-level commitment to quality and a statement of corporate quality policy;

(2) A detailed description of how the corporate policy is implemented and documented, and by whom; and

(3) Procedures and forms to document performance of quality-related activities and the results of those activities.

c. The documented quality system must document the policies and procedures necessary to achieve satisfactory construction. Written policies and procedures must address pertinent areas within the construction activity to assure implement, maintain, and improve quality. Procedures must also be developed, implemented, and maintained for control of processes including inspection, testing, nondestructive examination, disposition of nonconforming product, corrective action, maintenance of quality records, quality audits, and training.

d. The documented quality system must establish the controls and responsibilities for the development, review, verification, approval, validation,

and revision of documented procedures. Documented procedures are those that result in generating records substantiating the performance and outcome of quality-related activities. They follow a specified format and show current revision level, approval or effective date, and approval signature. The Design-Builder will use the following format for documenting procedures:

(1) **Purpose:** Reason why the procedure is being initiated.

(2) **Scope:** Boundaries of the procedure; i.e., to whom or to what the procedure applies.

(3) **References:** Documents referred to for standards to be followed in relation to the procedure as well as for information and background.

(4) **Definitions:** Explanation of words or terms used in the procedure that are not self-explanatory.

(5) **Procedure:** The sequence of required actions to be performed and the person responsible for performing those actions.

(6) **Attachments:** Documents and/or related materials that are needed for the procedural process such as transmittal letters, forms, and flow charts.

(7) **Provisions:** Items of information, instructions, or special conditions applicable to the procedure.

e. The documented quality system must:

(1) Use a uniform procedure numbering system.

(2) Establish quality record capture statements within each applicable procedure that identify the quality records generated by the procedure. Procedures must contain formats for the quality records needed to ensure that the procedures are followed and documentation requirements are understood.

(3) Establish systems for the control of procedures.

(4) Ensure that procedures contain qualitative and quantitative acceptance criteria when applicable.

(5) Establish requirements to prepare, approve, and distribute procedures prior to their need or initial use.

(6) Provide a mechanism for a quick change or issuance of a procedure under specific emergency-related conditions or circumstances.

(7) Identify procedures that are controlled documents.

(8) Require a periodic review of procedures to ensure current usability and compatibility with interfacing procedures.

f. The Design-Builder shall plan and define construction activities to achieve quality objectives. The plan shall address construction sequences so that activities are performed in the appropriate order to promote quality. Documented system controls shall be implemented to cover all construction operations, including both onsite and offsite manufacturing and fabrication. These controls shall be keyed to the Schedule and provide written records of the results. As a minimum, these controls shall include the following three phases:

(1) **Preparation Phase** -Prior to beginning construction on any definable feature of work. (A definable feature of work is a task that is separate and distinct from other tasks and has separate control requirements.) The plan must include the following:

(i) Review of the contract requirements

(ii) Verification that all materials and/or equipment have been tested, submitted, and approved

(iii) Verification that provisions have been made to verify that the required quality control testing was performed.

(iv) Examination of work areas to ascertain that all preliminary work has been completed

(v) Physical examination of materials, equipment, and sample work to ensure conformance to approved shop drawings or submitted data and that all materials and equipment are on hand

(2) **Initial Phase** - At the beginning of each definable feature of work. It must include the following:

(i) Check of preliminary work

(ii) Verification of full compliance with Contractual requirements

(iii) Establishment of level of workmanship

(iv) Resolution of all differences

(3) **Follow-up Phase** - Periodic checks performed to ensure continuing compliance with Contract requirements until the completion of the particular feature of work.

3. **Design Control.**

Design activities are within the Design-Builder's work scope. This element must be considered, the DBQP should address the Design Builder's method for establishing, maintaining and controlling quality in the design process. DBQP.

4. **Document Control.** Document control includes management of submittals and control of all documents and document changes.

a. The Design-Builder shall develop, implement, and maintain documented procedures for scheduling and managing Design-Builder and Subcontractor submittals and for document control. The procedures shall define the responsibility and authority for preparing, reviewing, approving, issuing, recording, revising, and distributing documents for activities affecting the quality of the Work.

b. The Design-Builder shall establish a document control system that ensures that the latest approved documents, drawings, and specifications are available prior to the start of the Work and that the Work is performed in accordance with the latest approved documents.

c. Changes to documents must be processed in writing and records must reflect all changes as generated. Changes to documents and data must be reviewed by the same authorized personnel who reviewed and approved the original documents unless the control procedures specifically allow otherwise. Changes must be distributed promptly to all locations.

d. The Design-Builder's document control system must include methods for elimination of obsolete documents from each work location. Any superseded documents retained for the record must be clearly identified as such.

e. The Design-Builder must maintain a master list of controlled documents enumerating the current revision of each document.

f. The following types of documents require control:

(1) Requests for Information (RFI) and responses

(2) Drawings

(3) Specifications

(4) Inspection procedures

(5) Test procedures

(6) Special work instructions

(7) Operational procedures

(8) Quality program and procedures

5. **Subcontractor Evaluation and Procurement Control.**

a. Subcontractor services must comply with all quality requirements specified for the Design-Builder. Subcontractors and suppliers may adopt and implement the Design-Builder's DBQP or use approved in-house quality programs appropriate to their work and meeting all applicable codes, standards, specifications, and guidelines. The Design-Builder shall review any Subcontractor or supplier quality program used to control work on the project to verify its compliance with these requirements.

b. The Design-Builder shall ensure that services are procured only from sources capable of meeting the requirements of the Contract and procurement documents. Subcontractors and suppliers under consideration shall be evaluated on the basis of the following:

(1) Technical competence as evidenced by professional qualifications and experience of the firm and committed personnel

(2) Past performance on related or similar projects

(3) Familiarity with Project guidelines and other applicable codes and standards

(4) Current commitments of the and key personnel

(5) Safety and criticality of the project and activity

c. The Design-Builder must ensure that contract or procurement documents for Subcontractor services clearly specify the quality expectations of the PBC/PMO, including relevant standards, drawings, specifications, process requirements, inspection instructions, and approval criteria for materials, processes, and product. As appropriate, the Design-Builder shall define the means and methods for handling, storage, packaging, and delivery of product. The Contractor's purchasing documents shall be reviewed and approved by a Design-Builder designated authority for adequacy of specified quality requirements prior to release.

d. The Design-Builder must document all Subcontractor and supplier evaluation and procurement control activities.

e. As appropriate, the Design-Builder's contract with its Subcontractors and suppliers shall include provisions for source inspection by the Design-Builder, Authority, or other authorized representatives of those quality characteristics which cannot be verified during subsequent processing. Source inspection plans shall include mandatory hold points where the Design-Builder must verify compliance with the Contract requirements.

6. **Handling, Storage, and Control of Materials and Equipment.**

a. The Design-Builder must develop, implement, and maintain documented procedures for handling, storage, and control of materials and equipment. These shall address the following, as appropriate:

(1) Measures to ensure that inappropriate storage, handling, lifting, and rigging methods do not degrade or compromise the quality of an item.

(2) Methods for cleaning, preserving, and storing material and equipment.

(3) Verification and control certificates of compliance and conformance and other supporting documentation.

b. The Design-Builder must develop, implement, and maintain documented procedures to control product identification and traceability to prevent the use of incorrect or defective items; and to ensure that only correct and acceptable items are used or installed.

c. The Design-Builder must segregate or otherwise identify items that fail to possess identification, or items for which record traceability has been lost, or items which do not conform to requirements to prevent use or installation. The Design-Builder shall ensure that items can be identified by how they are marked or where they are located.

d. The Design-Builder must implement methods of handling and storage to prevent damage to, and loss of, materials and equipment. If appropriate, contract and procurement documents shall require measures to ensure proper handling and storage of material and equipment by Design-Builder's Subcontractors and suppliers.

7. **Control of Special Processes.**

a. The Design-Builder must develop, implement, and maintain documented procedures for controlling special processes. Special processes are those that require: qualification of personnel performing the process, qualification of the process itself, and control of the process and equipment used to perform the process. Special processes include welding, nondestructive testing, and heat treating. Control of special processes shall include the following:

(1) The Design-Builder shall use qualified and certified personnel to perform special processes. Their certifications shall be current and appropriate for the special process they are performing.

(2) Special processes shall be qualified, or meet the requisites for prequalification. The material and equipment used to perform the special process shall be qualified, properly controlled, and maintained.

(3) The Design-Builders, Subcontractors, or Fabrications inspectors of special processes shall be properly qualified and certified, and their certifications shall be current.

(4) Work involving special processes shall be identified, planned, and performed in the proper sequence under controlled conditions according to the referenced standards.

(5) Work involving special processes shall be performed using documented procedures or work instructions.

b. The Design-Builder must document the control of special processes according to the referenced standards, and keep records of the control measures.

c. The Design-Builder must ensure that requirements for process control and procedures for special processes are included in its contract and

procurement documents if appropriate to the direction of its Subcontractors and suppliers.

8. **Corrective Action.**

a. The Design-Builder must immediately investigate the cause of each non-conformance and take appropriate corrective action to prevent recurrences. The identification, cause, and corrective action planned and taken shall be documented. Corrective action taken with respect to nonconforming Work shall be proactive so as to eliminate potential problems, which have not yet occurred.

b. The Design-Builder must develop, implement, and maintain documented corrective action procedures for the following:

(i) Analyzing processes to detect and eliminate potential causes of nonconformance.

(ii) Initiating preventive actions to deal with problems to a level corresponding to the risks encountered.

(iii) Ensuring implementation and effectiveness of corrective actions.

(iv) Implementing and recording changes in procedures resulting from corrective actions.

c. The Design-Builder must ensure that applicable requirements for corrective action by its Subcontractors and suppliers are included in its contract and procurement documents.

9. **Documentation by Quality Records.**

a. The DBQP must contain provisions for identification of types of quality records to be maintained and for their retrievability and retention. The Design-Builder shall maintain quality records in accordance with applicable procedures as evidence that all of its activities and those of its Subcontractors comply with the requirements of the DBQP.

b. The Design-Builder must develop, implement, and maintain documented procedures control of quality records. Responsibility for production, collection, indexing, filing, storage, maintenance, and disposition of quality records shall be established.

c. Quality records must be legible and shall specify the type of activities involved. Records shall be kept in a suitable environment to prevent deterioration, damage, and unauthorized access. Retention times and final disposition shall be established and recorded.

d. Subcontractor and supplier quality records must be included in the Contractor's quality records maintenance plan where pertinent.

e. Quality records requiring control shall include, but shall not be limited to, the following:

(i) Qualification records for personnel, processes, and equipment

(ii) Nonconformance and corrective action reports

(iii) Documentation of audit and surveillance activities

(iv) Material and equipment certificates of conformance or compliance or both; certified material test reports

(v) Drawings, procedures, and the DBQP

(vi) Certification and training records

(vii) Subcontractor and supplier evaluations

(viii) Subcontractor documentation

10. **Design-Builder Surveillance/Internal Audit.**

a. The Design-Builder must develop, implement, and maintain documented procedures for the control of audit and surveillance activities. Audits, surveillance's, and follow-up actions must be scheduled and conducted by qualified quality personnel. All audit and surveillance activities must be documented.

b. The Design-Builder must establish and maintain a system of internal audits to verify and assess its compliance with the requirements of the DBQP.

c. The Design-Builder must establish and maintain a system of surveillance or external audits to verify and assess compliance by its Subcontractors and suppliers with the DBQP or other approved quality program.

d. Results of audits and surveillance's must be presented to the personnel having responsibility in the area being audited. Responsible management personnel must take timely corrective action on the deficiencies found by internal audits.

e. The Design-Builder must ensure that requirements for surveillance and internal audit by Subcontractors and suppliers are included in its Contract and procurement documents for the same.

11. **Certification And Training.**

a. The Design-Builder must provide training, qualification, and certification programs in accordance with recognized guidelines for personnel affecting and assuring quality. Personnel must have demonstrated competence in the specific area and have adequate understanding of the project requirements. The Design-Builder must periodically review credentials of active personnel to assure that suitable education, experience, and technical qualifications are maintained. Indoctrination and training must be implemented as necessary to

assure that proficiency is achieved and maintained for personnel with project responsibility.

b. The Design-Builder must develop, implement, and maintain documented procedures to establish the requirements for conducting training, including training on the DBQP and related procedures. Training must be conducted by knowledgeable instructors.

c. The Design-Builder must establish and maintain records of certification and training.

d. The Design-Builder must ensure that requirements for certification and training for its Subcontractors' and suppliers' personnel are included in its subcontract and procurement documents.

B. Reports to be provided by Design-Builder: Provide certified copies of reports.

1. Unless otherwise indicated, submit for review by the Architect.
2. Submit reports within ten (10) business days after execution of quality control activity, but not later than the date of the payment application for the Work to which the quality control activity relates.
3. Reports shall be prepared by the entity performing the quality control activity.
4. Include the following information in all types of reports:
   a. Date of report.
   b. Project name and Contract number.
   c. Description of the quality control activity.
   d. Name, address, and telephone number of entity performing activity.
   e. Date quality control activity was performed.
   f. Specification section(s) involved.
   g. Basis for evaluation (test method, etc.)
   h. Results or conclusions, including evaluations and interpretations.
   i. Title, name, and signature of person performing activity.

C. Certificates to be provided by Design-Builder: Submit for review, unless otherwise indicated.

1. Certificates shall be signed by the product manufacturer, unless otherwise specified or not applicable.
2. Include the following information:
   a. Date of certificate.
   b. Project name and Contract number.
   c. Description of the product or system certified.
   d. Specification section(s) involved.
   e. When actual materials to be used are to be certified, include lot identification markings, destination of shipment, and quantity in shipment.
   f. Title, name, and signature of person authorized to make certification.

D. Qualification Statements to be submitted by Design-Builder: Submit for review, unless otherwise indicated.

E. Manufacturers' Instructions to be submitted by Design-Builder: Submit for review, unless otherwise indicated; identify conflicts with Contract Documents.

1.4 SEQUENCING AND SCHEDULING

A. The Design-Builder must coordinate quality control activities to avoid delay and to make it unnecessary to uncover Work for testing or inspection.

PART 2 - PRODUCTS

2.1 INSTALLATION STANDARDS

A. Compliance: Install manufactured items in accordance with the manufacturer's written instructions.

B. Inconsistencies: The Design-Builder must refer inconsistencies between the manufacturer's instructions and the Scope and Performance Criteria to the Commission Representative for resolution.

C. The Design-Builder must require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. The Design-Builder must not proceed until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer and the installer.

D. The Design-Builder must inspect materials or equipment immediately upon delivery and again prior to installation to be certain the items are not damaged or defective.

E. The Design-Builder must provide attachment and connection devices and use methods necessary for securing Work true to line and level. The Design-Builder must allow for expansion and building movement.

F. The Design-Builder must provide uniform joint widths in exposed Work. The Design-Builder must arrange joints in exposed Work to obtain the best visual effect. All anchorage devices and materials shall be fully concealed in the Work unless otherwise approved by the Commission.

G. The Design-Builder must recheck measurements and dimensions before starting each installation.

H. The Design-Builder must install each component during weather conditions and Project status that shall ensure the best possible results. The Design-Builder must insulate each part of the completed construction from incompatible material as necessary to prevent deterioration.

I. The Design-Builder must coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

J. The Design-Builder must, where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated.

K. Job Mock-Up: Where indicated in the Technical Specifications, prior to installation of the work, construct sample mock-up at the site, where directed, using materials shown or

specified for final Work, and indicating the proposed range of color, texture and workmanship to be expected in the completed Work. Obtain Architect's acceptance. Do not alter, move or destroy mock-up until Work is completed.

2.2 COLORS

A. The Design-Builder, its subcontractors, and materials suppliers shall cooperate in furnishing required samples to aid in color selections. Where custom colors are selected by the Commission, furnish accurate reproductions of these colors on materials of same type to be used in the Work, for review. Colors and materials shall match the Commission's samples.

B. If the colors of factory-finished products or equipment are not specified, then the Commission is to select from the manufacturer's standard range of colors for non-public areas and may select custom colors for public areas, unless specified otherwise.

C. Discrepancies between the colors and materials scheduled and other requirements of the Contract Documents shall be referred to the Commission Representative for resolution. The Design-Builder shall furnish these materials in accordance with the Commission Representative's determination at no additional cost to the Owner.

2.3 METAL THICKNESS

A. Reference to gauge or thickness of metal products shall be the base metal gauge or thickness, excluding thickness of coating, such as paint coatings, zinc (galvanized) coatings, and plating.

2.4 THREADED FASTENERS

A. Threaded fasteners and associated accessories for the work must be manufactured in the United States of America.

2.5 INSTALLATION AND START-UP

A. When product manufacturer's warranty is contingent upon installation or start-up technical assistance service by the manufacturer's Commissioned Representative, Design-Builder must advise the Owner and the Architect in writing not less than 14 days prior to date of commencement of that portion of the Work.

2.6 DELIVERY, HANDLING, AND STORAGE

A. Transportation and Handling:

1. Delivery, Design-Builder's Obligations:

a. Shop Assembly: Preassembled products in shop to greatest extent possible to minimize field splicing and assembly. Disassemble product into units only as necessary for shipping and handling limitation. Clearly mark units for ease of assembly and coordinated installation.

b. Openings: Prior to shipping, provide temporary caps or plugs to close openings of products to prevent entry of foreign material or damage to openings.

c. Fluids: Drain products of fluids prior to shipping, except as otherwise required by manufacturer. Ship fluids in separate containers.

d. Containers: Deliver products to Project site in original, new, and unopened packages or containers bearing manufacturer's name, content identification, and additional data required by respective specification sections.

e. Built-In Items: Promptly deliver products to be built into supporting construction. Furnish final setting drawings, diagrams, templates, and instructions for installation of built-in items.

2. Handling:

a. Methods: Handle products and place products in positions in a manner to prevent overstress, deformation, defacement, or other damage.

b. Lifting Aids:

1) Furnish products with lifting aids, including, but not limited to, lifting irons, eye bolts, lifting lugs, and like items as applicable. Wherever possible, lifting aids shall be of threaded connection type.

2) Do not remove lifting aids from products, except for interference with installation or operation. Under no circumstances shall lifting lugs welded to code stamp or like certified products be removed.

3) Tag and deliver removed lifting aids to the Owner. Tag shall identify products to which lifting aids are associated.

B. Storage and Protection, Design-Builder's Obligations:

1. Storage Space:

a. Arrangement: Place products to provide easy access for review, so identification marks are easily visible, and to provide space necessary for future handling.

b. Relocation: If it becomes necessary during progress of the Work to move product storage facility, move such facility at no charge in the Contract Sum.

2. Off-Site Storage: In the event that it is necessary to store products off-site, first obtain acceptance of the Owner. The Design-Builder shall be responsible for insurance, warehousing, transportation, handling, and similar items associated with products stored off-site.

3. Protection:

a. Do not place products in direct contact with ground or where products can become splattered with mud, dirt, water, debris, or other similar material, or where products cannot be picked-up for future handling without damage.

b. Store products subject to damage by weather in weathertight enclosure. Maintain temperature and humidity within ranges required or recommended by manufacturer's instructions.

c. Prevent moisture from condensing on surfaces within space of protected or covered products.

2.7 INTERFACE AND PROJECT COORDINATION

A. Work Priority, Design-Builder's Obligations:

1. Fit piping, ductwork, conduit, and lights into structure as Project conditions may demand. Final decisions as to right-of-way and run of pipe, ducts, conduit, lights, etc., shall be made by the Commission Representative.

2. Close cooperation between the trades shall be required. Work installed without regard for other work shall be removed, if necessary, as determined by the Commission and at the installing Design-Builder's expense.

3. In general, priority shall arranged be as follows:
   a. Light fixtures.
   b. Piping that must be drainable, such as plumbing wastes, vents, short drain lines, steam and condensate, and refrigeration.
   c. Sheet metal ductwork.
   d. Heating hot water and chilled water lines.
   e. Gas lines.
   f. Water and fire sprinkler lines.
   g. Electrical conduit.
   h. Control air lines and conduit.

4. Review the relationship of work to that of other work before installing same. In particular, review the following:

   a. Ceiling heights of room before installing ducts and pipes.
   b. Ceiling outlets versus lights and speakers.
   c. Fin tube radiation or floor air outlets versus wall electrical outlets.
   d. Fixture heights and locations.
   e. Floor drain locations.
   f. Drain piping grades and elevations.
   g. Roof drain and plumbing vent locations.
   h. Roofing, waterproofing, and flashings relative to facade and colonnade masonry work.

5. Roughing-in and connection prints shall be furnished for equipment not-in-contract (NIC) by those providing the equipment.

6. Piping, ductwork, and conduit shall be above ceilings and in wall cavities unless otherwise indicated.

7. Where pipes, ducts, and conduit are shown to be routed below existing ceilings less than 9 feet (2743 mm) high, they shall be held as high as possible, and along walls, beams, etc., to provide maximum clearance possible.

8. The Design-Builder shall be responsible for the pumping and draining of trenches and pits necessary for the installation of work. No piping, ductwork, conduit, or equipment shall be installed in a trench or pit until water has been pumped out and the trench is continuously maintained dry. Provide pumps, piping, and wiring required to drain trench or pit.

B. Coordination With Owner's Trades, Design-Builder's Obligations:

1. Examine other divisions of the Contract Documents for related work.

2. Examine the Contract Documents to determine the material and equipment which shall be provided by other contractors.

3. Cooperate to provide continuity and progress of the Work. Furnish to other divisions, information required for the execution of the Work.

4. Furnish other divisions advance information on locations and sizes of frames, boxes, sleeves, and openings needed for the Work, and also furnish information and shop drawings necessary to permit trades affected to install their work properly and without delay.

5. Where there is evidence that work of a division shall interfere with the work of another division, all divisions shall be required to assist in working out space conditions to make satisfactory adjustments and shall be prepared to submit and revise coordinated shop drawings.

C. Drawing Coordination, Design-Builder's Obligations:

1. Location of items required by the drawings or specifications not definitely fixed by dimensions are approximate only and exact locations necessary to secure the best conditions and results shall be determined at the site and shall be as indicated on the shop drawings, and shall be subject to review by the Commission Representative.

2. Determine exact locations by the dimensions of the actual equipment and final locations of masonry for the facade and colonnade. Submit revised shop drawings for review by the Commission Representative for any revised layout before equipment is installed. Review the drawings for dimensions, locations of partitions and equipment, locations and sizes of structural supports, foundations, swing of doors, and other detail information required for a correct installation of the work.

3. Work not shown on the Drawings, but mentioned in the Specifications, or vice versa, or any incidental accessories necessary to make the Work complete and ready for operation, shall be furnished and installed.

4. Items not shown on the drawings or specified herein, but reasonably incidental to the installation, as required by applicable codes, as practiced by the trade, or which is stipulated by the manufacturer of equipment being installed or connected, shall be furnished and installed without additional expense.

2.8 CONSTRUCTION INDUSTRY STANDARDS

A. Publication Dates: The Design-Builder must comply with the standard in effect as of the date of the Contract Documents, unless another edition is indicated in the Specifications.

B. Conflicting Requirements: Where compliance with two or more standards is specified in the Scope and Performanve Criteria, the standards may establish different or conflicting requirements for minimum quantities or quality levels. The Design-Builder must refer requirements that are different, but apparently equal, and uncertainties to the Commission Representative for a decision before proceeding.

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

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

1. Where copies of standards are needed for performance of a required construction activity, the Design-Builder shall obtain copies directly from the publication source.

D. Installer: An "Installer" is the Design-Builder or an entity engaged by the Design-Builder, either as an employee or, Subcontractor for performance of a particular construction activity, including, but not limited to, installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.

1. The term "experienced", when used with the term "Installer", means having a minimum of five years experience installing similar products on projects similar in size and scope to this Project, being familiar with the special requirements indicated, and having complied with requirements of the authority having jurisdiction. Comply with additional qualifications where called for in the individual Specification sections.

2. Use of titles such as "carpentry" is not intended to imply that certain construction activities shall be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter". It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

3. Certain sections of the Specifications require that specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed. The specialists shall be engaged for those activities, and assignments are requirements over which the Design-Builder has no choice or option. Nevertheless, the ultimate responsibility for fulfilling Contract requirements remains with the Design-Builder.

a. This requirement shall not be interpreted to conflict with enforcement of building codes and similar regulations governing the Work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.

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

PART 3 - EXECUTION

3.1 GENERAL

A. The Design-Builder must provide Work of the specified quality; where quality level is not indicated, provide Work of quality customary in similar types of Work.

1. Where codes, laws, or regulations require Work of higher quality or performance, provide Work complying with such codes, laws, and regulations.
2. Where two (2) or more quality provisions of the Contract Documents conflict, or; where requirements are different but apparently equal, and where it is uncertain which requirement should be used, obtain clarification from the Commission Representative before proceeding.
3. Actual quality may exceed the specified quality; verify that such differences are acceptable to the Commission.

B. The Design-Builder must control products, suppliers, manufacturers, Site conditions, installers, and workmanship in such a manner as to produce Work of the specified quality.

C. The Design-Builder must comply with manufacturers' instructions and recommendations.

1. Keep a record of instructions and recommendations which supplement or conflict with the manufacturer's written instructions.
2. When manufacturers' instructions and recommendations conflict with the Scope and Performance Criteria, obtain clarification from the Commission Representative before proceeding.

D. The Design-Builder must use installers who are capable of producing Work of the specified quality.

E. The Design-Builder must perform all quality control activities specified unless indicated to be performed by other entities.

3.2 GRADES, LINES, AND LEVELS

A. The Design-Builder must establish, maintain, and be responsible for grades, lines, levels, and benchmarks.

B. The Design-Builder must verify grades, lines, levels, and dimensions indicated on the Drawings before laying out the Work, failure to make said verification shall not be grounds for a claim for an increase in the Base Contract Price or the Contract Time. The Commission Representative will not assume the responsibilities for laying out the Work.

C. The Design-Builder must establish benchmarks and axis lines at each floor showing exact floor elevations and other lines and dimensional reference points as required for the information and guidance of trades.

D. Before ordering materials or doing work which is dependent for proper size or installation upon coordination with building conditions the Design-Builder must verify dimensions by taking measurements and be responsible for their correctness.

E. The Design-Builder must resolve differences between the actual dimensions and those indicated on the drawings.

F. Report to the Commission Representative any discrepancy between the Scope and Performance Criteria and the existing conditions. Do not proceed in areas of discrepancy until such discrepancies have been fully resolved.

3.3 SURVEYOR

A. The Design-Builder must engage and pay for the services of a licensed surveyor, subject to the approval of the Commission, who is not a regular employee of the Design-Builder and who has no interest in the Contract.

B. Locating the Work

1. Verification: The Design-Builder must have the surveyor verify that the following elements of the work have been furnished and installed in accordance with the Contract Documents:
   a. Caissons: Verify locations, elevations, and dimensions.
   b. Foundation Walls: Verify locations, elevations, dimensions, and angles.
   c. Roof Structure: Verify plumbness.
   d. Exterior Walls: Verify locations and plumbness.
   e. Bottom of excavation; top of compacted fill.

C. Certification: The Design-Builder must submit certification to the Commission with a copy to the Architect, in the form of original drawings signed by the surveyor, stating that the work has been accurately located relative to the property lines. Except at his own risk, the Design-Builder shall not proceed with the work until surveyor's certification has been submitted and verified for correct location of the work.

3.4 SETTLEMENT MONITORING

A. Readings: Unless otherwise specified, Design-Builder must have the surveyor described above take readings of the work and adjacent property at a minimum number of points as indicated in the Technical Specification. Additional monitoring points may be established as the Design-Builder determines to be necessary. Provide a proposed program, in writing, for settlement monitoring prior to the start of excavation or foundation work. Have readings taken weekly until the work is substantially complete.

B. Reports: The Design-Builder must record settlement readings and submit them in the form of a report to the Commission Representative once a week.

3.5 PROTECTION AND REPAIR

A. When Work is uncovered during quality control activities, the Design-Builder must provide protection from damage.

B. The Design-Builder must correct Work damaged by quality control activities; where repair is indicated as an unacceptable method, replace the Work.

END OF SECTION 01400

SECTION 01410 - TESTING AND INSPECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Testing laboratory to be retained for all independent laboratory soils and material testing required by the Contract Documents.
2. Commission coordination of testing laboratory.
3. Summary of inspection sampling and testing required as part of the Work.

1.2 COMMISSION'S INDEPENDENT TESTING LABORATORY

A. The Commission shall retain the services of an independent certified testing laboratory (ITL) for material and laboratory testing designated in the Contract Documents as being performed by the owner's ITL. for the Commission's purposes.

1.3 RESPONSIBILITY – DESIGN-BUILDER'S ITL

A. The Design-Builder shall retain the services of an ITL for all other testing listed in the Contract Documents, and must cooperate with Commission Representative to ensure timely Site observation, sampling and laboratory investigation so as to not delay the Work.

B. The Design-Builder must advise the Commission Representative of testing procedures and with all special conditions encountered at the Site.

C. The Design-Builder must perform specified inspections, sampling, and testing of materials and construction methods in accordance with specified or recognized industry standards and ascertain compliance with contract requirements.

D. The Design-Builder must promptly notify Commission Representative of irregularities or deficiencies of Work which are observed during performance of inspection and testing services.

E. The Design-Builder must promptly submit three (3) copies of reports of inspections and tests to the Commission Representative including:

1. Date of test or inspection and date of report issuance.
2. Project name and project number, project location.
3. Name and signature of inspector.
4. Identification of product and specification section.
5. Type of inspection or test.
6. Observations regarding compliance with Contract Documents.
7. Implications of all irregularities of deficiencies identified by testing or inspection on quality of construction materials and assemblies.
8. Additional services directed by Commission Representative.
9. Log of all testing reports in 3-ring binder with Table of Contents and in Online Document Control and Management System.

F. Additional Design-Builder Responsibility

1. Cooperate with Commission's Independent Laboratory personnel, provide access to Work and to manufacturer's operations.
2. Provide labor and facilities necessary to provide access and to facilitate inspections and tests to Work requiring testing; obtain, handle, and store samples at Site; provide facilities for the exclusive storage and curing of test samples.
3. Notify Commission's Independent Laboratory sufficiently in advance of operations to allow for scheduling of personnel and tests.
4. Correct or replace Work which is defective or which fails to conform to the Contract Documents. Corrective work shall be performed promptly so as not to delay the Project schedule or the work of others. Corrective work shall include all Work associated with patching of all surfaces and areas disturbed by testing operations.
5. Pay all costs of retesting when test results indicate non-compliance with Contract requirements.

G. Design-Builder, Subcontractor, Manufacturer, and Independent Agency Testing

1. Design-Builder shall coordinate schedule and manage all testing and inspection of equipment, systems, and installations required by the Contract and by code and local governing authority to ensure timely access and documentation.
2. Provide advance notice of all tests and inspections to Commission Representative, and local governing authorities to permit attendance when required.
3. Design-Builder shall witness and shall also certify all inspections and tests that are performed.

H. Testing and Inspection Required

1. Material and equipment testing and inspection for the Contract is indicated in the appropriate sections of the Specifications.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01410

SECTION 01500 - TEMPORARY FACILITIES AND SERVICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Temporary utilities
2. Temporary construction
3. Protective facilities
4. Employee facilities
5. Administrative facilities
6. Required temporary facilities and services, including but not limited to:
   a. Drinking water facilities.
   b. Field office for Commission Representative's use.
   c. Fire protection facilities, other than piped utilities.
   d. Meeting room.
   e. Project construction sign(s)
   f. Public protective facilities required by law.
   g. Site fence.
   h. Telephone service.
   i. Temporary enclosures for general building heating
   j. Temporary enclosures for protection from weather.
   k. Temporary partitions indicated on drawings or specifically called for in the Specifications.
   l. Water supply.
   m. Include water service and sewer usage charges.
   n. Sanitary Services.
   o. Temporary heating and cooling.
   p. Electrical service.
   q. Include electric service usage charges.
   r. Temporary lighting.
   s. DSL internet service

1.2 DEFINITIONS

A. Temporary Facilities: Construction, fixtures, fittings, and other built items required to accomplish the Work but which are not incorporated into the finished Work.

B. Temporary Utilities: Temporary sources of electric power, water, natural gas, telephone service, internet and other services as are necessary for execution of the Work, obtained from public utilities, other main distribution systems, or temporary sources constructed for the Project, but not including the fixtures and equipment served, or the permanent utility connections.

1.3 SUBMITTALS

A. Reports of inspections, tests, and approvals for the installation and use of construction facilities, which are made or given by public authorities.

B. Copies of permits required by public authorities.

1.4 QUALITY ASSURANCE

A. The Design-Builder must comply with requirements of governing authorities, as to type, quantity, location, and use of temporary facilities.

B. Comply with requirements of public utilities affected.

1.5 PROJECT CONDITIONS

A. The Design-Builder must obtain easements where required.

1.6 SEQUENCING AND SCHEDULING

A. The Design-Builder must perform all required connections to the existing utility systems without disruption to existing services. If disruption of the existing services is required, do not proceed without the approval of the Commission Representative, requested not less than seven (7) days, in advance.

B. The Design-Builder must maintain required facilities until not needed or until shortly before Substantial Completion; remove facilities before Final Completion and Acceptance.

C. The Design-Builder must change over to use of permanent facilities, when applicable, as soon as possible, except when use of permanent facilities is not allowed.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: The Design-Builder must provide materials which are both suitable for the use and durable enough to withstand the use and abuse to be expected.

B. Temporary Heating Units: UL or FM labeled for the fuel used; do not use gasoline-burning, open burning, or solid fuel heaters or salamanders.

1. Use equipment that is known to be safe and that will not damage Work in progress.
2. Provide trained personnel as required to operate and maintain equipment during working and non-working hours as necessary to maintain the Work at the temperatures specified in the Contract documents, or as specified by the product manufacturer's, which ever is more stringent.

2.2 TEMPORARY UTILITIES

A. Temporary Water Service, Design-Builder Obligations:

1. Provide water adequate for demand of construction operations.
2. Piped water service:
   a. Do not use permanent piping system to distribute nonpotable water.
   b. Connect to existing water main.
   c. Provide meter and shut-off valve.
   d. Disinfect temporary piping before use.
   e. Take precautions to prevent damage due to leaks and spills.

B. Temporary Power and Light, Design-Builder Obligations:

1. Provide electricity adequate for demand of construction operations.
2. Electrical service:
   a. Obtain temporary service from local utility.
   b. Provide disconnect at connection to service.
   c. Provide service conductors and equipment.
   d. Provide metering equipment.
   e. Provide service to other temporary facilities specified.

2.3 PROTECTIVE FACILITIES

A. Fire Protection Facilities: The Design-Builder must provide, at a minimum, the temporary facilities required by the authorities having jurisdiction.

1. Fire extinguishers to be installed in the completed building shall not be used during construction.
2. Put permanent facilities into operation as soon as possible.

B. Site Fence: 8'-0" high, chain link fence, Design-Builder Obligations.

1. Furnish, install and maintain to prevent unauthorized access to Site by people and animals.
2. Locate fence where indicated on Drawings.
3. Provide gates as required for access. Coordinate locations with Commission Representative.
4. Do not remove until other security facilities, either temporary or permanent, are in place and in operation.

C. Temporary Storage Sheds Design-Builder Obligations:

1. Coordinate location with Commission Representative.
2. Provide and maintain weather-tight shed for storage of tools.
3. Paint the exterior.
4. Subject to the approval of the Commission Representative.

D. Temporary Stairs and Ladders Design-Builder Obligations:

1. Furnish and maintain all necessary temporary stairs, ladders, ramps, chutes, runways, derricks, etc.

2.4 EMPLOYEE FACILITIES, CONTRACTOR OBLIGATIONS

A. Temporary Lighting: Provide, at a minimum, the lighting required by law.

B. Toilet Facilities: Provide temporary toilet facilities.

1. Clean and maintain toilet facilities.
2. Provide toilet tissue for each facility.
3. Provide well-ventilated and weathertight enclosures.
4. Arrange for sewer and water services.

2.5 TEMPORARY CONSTRUCTION, CONTRACTOR OBLIGATIONS

A. Temperature control and ventilation facilities: Provide adequate facilities:

1. To provide proper conditions for installation.
2. For drying and curing of completed Work.
3. For protection from deterioration due to high or low temperatures and humidities.
4. To provide suitable working conditions.
5. Provide heating after building is enclosed, adequate to maintain minimum of 65 degrees F.

B. Temporary enclosures for heating: When general building heating is required for construction operations before completion of building enclosure, provide temporary construction to close openings in building enclosure.

C. Temporary enclosures for weather resistance: When building enclosure is not yet complete but interior construction may be damaged by weather, provide temporary enclosures adequate to keep out weather.

D. Temporary partitions: Provide at juncture of new and existing building in locations required by construction operations that will create dust, excessive noise, or other disruption to the User and schedule, and as indicated on Drawings.

1. Minimum of 2-hour fire-rated construction, approved by authorities having jurisdiction.
2. Dustproof partitions: Constructed of framing, gypsum board, plywood, and plastic sheeting, full height, with dustproof access doors. Seal joints with sealant or durable tape.

2.6 PROJECT CONSTRUCTION SIGN(S), CONTRACTOR OBLIGATIONS

A. Maintain project construction signs installed by others.

PART 3 - EXECUTION

3.1 GENERAL

A. Cooperate with other Commission's Contractors in location of temporary facilities.

3.2 TERMINATION AND REMOVAL, CONTRACTOR OBLIGATIONS

A. Remove temporary facilities when no longer needed, or when use of appropriate permanent facility is approved, but not later than Substantial Completion.

1. Exception: When longer usage is requested by the Commission Representative.

B. Complete permanent Work delayed until removal of temporary facilities.

C. Permanent facilities used during construction: Clean; replace parts that are work in excess of that expected during normal usage.

D. Dispose of Project sign(s) not claimed by the Commission.

END OF SECTION 01500

SECTION 01720 - SITE DOCUMENTATION REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. The Design-Builder must at Site, maintain one (1) current, updated copy of the following documents:

1. Issued for construction drawings, including separate 3-ring binder for supplemental details.
2. Specifications.
3. Written interpretations and supplemental instructions.
4. Addenda.
5. Reviewed, approved shop drawings, samples, and product data.
6. Certifications.
7. Field test records.
8. All permits for construction
9. Correspondence file(s).
10. A full set of updated "as-built" drawings

B. The Design-Builder must store documents in field office apart from documents used for field construction.

C. The Design-Builder must provide files and racks for document storage.

D. The Design-Builder must file documents in format in accordance with division numbering indicated in Specifications table of contents.

E. The Design-Builder must maintain documents in clean, dry legible conditions.

F. The Design-Builder must not use the documents in the field.

G. The Design-Builder must provide access to documents at all times for inspection by Architect and Commission Representative.

1.2 RELATED SECTIONS

A. Section 01300 - Submittals

B. Section 01730 - Operating and Maintenance Data

C. Section 01740 - Warranties

1.3 RECORDING

A. The Design-Builder must keep Record Documents current. Make documents available for inspection at all times and as part of monthly progress/payment meeting.

B. The Design-Builder must not permanently conceal any Work until specified information has been recorded.

C. Legibly mark reproducible drawings to record manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.

1.4 SUBMITTAL

A. The Design-Builder must at completion of Contract, deliver record "as-built" drawings to the Architect for review.

B. The Design-Builder must accompany submittal with transmittal letter containing date, Project name, Contract number, location, title, and name of each record document.

C. Design-Builder shall sign all Project Record Documents to certify that all documents submitted have been reviewed for accuracy and completeness.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01720

SECTION 01730 - OPERATING AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. List of all manufacturer's standard product and equipment data of same type and content furnished to manufacturer's own service personnel.
2. Summary list of operating and maintenance data submittals as required by Specifications for inclusion in Final Completion and Acceptance documentation.

1.2 SUBMITTAL REQUIREMENTS

A. Assemble operating and maintenance data, properly assembled by each of the respective manufacturers, subcontractors, and suppliers.

B. Submit one (1) hard copy at Substantial Completion. Obtain approval of Commission Representative prior to Final submittal.

C. Submit four (4) original hard copies of each item as part of the Record Documents submittal at Final Completion and Acceptance bound in a separate manual to Architect for review and transmittal to Commission.

D. Submit four (4) copies of the information in electronic format on C.D. ROM at Final Completion.

1.3 MANUAL CONTENT

A. The Design-Builder must include Table of Contents that identifies the following:

1. Design-Builder name, address, and telephone number.
2. List of each product specified to be included.
3. List to accompany each product that includes the name, address, and telephone number of the following:
   a. Subcontractor.
   b. Maintenance Contractor (where appropriate).
   c. Local distributor or supplier for parts or replacement.

1.4 MANUAL FOR MATERIALS AND FINISHES

A. Product data shall include the following:

1. Catalog number, size, composition, and finish selection for each product.
2. Manufacturer's recommendations for types of cleaning agents, methods, and maintenance schedule.
3. Instructions for inspection, maintenance, repair, safety and emergencies.
4. Material Safety Data sheets for materials, as directed by Commission Representative.
5. Manufacturer's statement of compliance with EPA and OSHA, Guidelines for VOC content limits for each material.
6. Clear identification of all specific product or parts installed.
7. Clear identification of data applicable to specific installation(s).

8. Delete references to inappropriate products, parts, options, and installation.
9. Supplemental coordination drawings that clearly illustrate relationship of component parts of equipment and systems, as well as, control, flow, and wiring diagrams.
10. Copy of each warranty, bond, and service contract issued.
11. Information for re-ordering product.
12. Procedures to be followed in the event of equipment failure.

1.5 SUBMITTALS REQUIRED

A. Items requiring operating and maintenance data are indicated in the appropriate sections of the Specifications.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01730

SECTION 01740 - WARRANTIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. List of all extended warranties (beyond one (1) year) for all materials, equipment, and labor to be provided by the Design-Builder as part of the Work.

1.2 SUBMITTAL REQUIREMENTS

A. Assemble warranties, properly executed by each of the respective manufacturers, Subcontractors, and suppliers.

B. Submit three (3) original signed copies of each item as part of the Record Document submittal at Final Completion and Acceptance bound in a separate manual to Architect for review and transmittal to Commission.

C. Manual shall include a typed table of contents that identifies the following:

1. Product or work item.
2. Contractor's name (including principal's name), address, and telephone number.
3. Manufacturer and distributor's names (including principal's name), address, and telephone number.
4. Commencement date of warranty.
5. Duration of warranty.
6. Procedure for Commission's or User's personnel to follow in the event of product or equipment failure.

1.3 FORM OF SUBMITTALS

A. Prepare a single packet in 8 1/2" x 11" format. Sheets larger than this format shall be folded.

B. Identify packet with typed title, "Warranties", Project name, location, date, Contract number and Contractor's name.

C. Submit the information in electronic format on CD ROM.

1.4 SUBMITTALS REQUIRED

A. Items or assemblies for which warranties are required are indicated in the appropriate sections of the Specifications.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01740

SECTION 01800 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project Record Documents consisting of:
   a. Record Drawings.
   b. Record Specifications.
   c. Record submittals:
      1) Shop drawings.
      2) Product data
      3) Samples.

B. Related Sections:

1. Operating and maintenance data: Specification Section 01730.
2. Warranties: Specification Section 01740.

1.2 SUBMITTALS

A. Project Record Documents: Submit after Substantial Completion, but prior to Final Completion and Acceptance.

1. Record Drawings: Submit in form of reverse matte-finish mylar transparencies for Architect's review.
   a. Submit original reproducible marked in red ink to indicate as-built condition.
   b. Submit three (3) additional opaque print copy sets.
   c. Sets shall include all Drawings, whether changed or not.
   d. After Architect's review, submit.

2. Other Record Documents: Submit originals or good quality photocopies.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 MAINTENANCE OF PROJECT RECORD DOCUMENTS

A. Do not use Record Drawings of any type for construction purposes.

B. Maintain complete set of current hard copy Record Drawings in a secure location at the Site while providing for access by the Design-Builder, the Commission Representative and the Architect during normal working hours. Store Record Drawings in a fire-resistive room or container outside of normal working hours.

C. Record information immediately after it is obtained on the record document transparencies for incorporation on the final Record Drawings as soon as possible.

D. Assign a person or persons responsible for maintaining Record Drawings.

E. Record the following types of information on all applicable Record Drawings:

1. Dimensional changes.
2. New and revised details.
3. Depths of foundations.
4. Locations and depths of underground utilities.
5. Actual routings of piping and conduits.
6. Revisions to electrical circuits.
7. Actual equipment locations.
8. Sizes and routings of ducts.
9. Locations of utilities concealed in construction.
10. Particulars on concealed products which will not be easy to identify later.
11. Changes made by modifications to the Contract; note identification numbers if applicable.
12. New information which may be useful to the Commission or User, but which was not shown in either the Contract Documents or submittals.

3.2 RECORD DRAWINGS

A. Maintain a complete set of opaque prints of the Drawings, marked to show changes, at the Design-Builder's Site trailer.

B. Where the actual Work differs from that shown on the Drawings, update this set to show the actual Work.

1. Identify location of concealed items before they are covered by other Work.
2. Update either Record Drawings or shop drawings, whichever are best suited to show the change.
3. Where changes are marked on record shop drawings, include cross-reference on the applicable Record Drawing.

C. When the Design-Builder is required by a provision of a Change Order to prepare a new drawing, rather than to revise existing drawings, obtain instructions from the Architect as to the drawing scale, media, format, and information required.

D. Review completed Record Drawing set with the Architect.

E. Upon authorization by the Architect, prepare a full set of transparencies of final Record Drawings with all record changes marked. The Design-Builder may, at its option and expense, arrange for the Architect to prepare the final Record Drawings.

F. The Architect will furnish original Drawings to the printer being used by the Architect for project reproduction. The Design-Builder will arrange for reproduction and payment for the record transparencies directly with the printing company.

G. If available, the Architect will furnish electronic copy of the original Drawings to the Design-Builder upon request. The Design-Builder will reimburse the Architect at actual cost. These computerized Drawing files shall be used solely for the purpose of maintaining Record Documents for submission as part of the final completion documentation.

H. Where Record Drawings are also required as part of operation and maintenance data submittals, make copies from the original record Drawings.

3.3 RECORD SPECIFICATIONS

A. Maintain a complete copy of the Specifications, marked to show changes.

B. Where the actual Work differs from that shown in the Specifications, mark the record copy to show the actual Work.

1. Include a copy of each addendum and modification to the Contract.
2. In addition to the types of information required on all Record Documents, record the following types of information:
   a. Production options taken, when the Specification allows more than one (1).
   b. Product substitutions.
   c. Proprietary name and model number of actual products furnished, for each product, material, and item of equipment specified.
   d. Name of the supplier and installer, for each product for which neither a product data submittal nor a maintenance data submittal was specified.

3.4 RECORD SUBMITTALS

A. The Design-Builder must maintain a complete set of all submittals made during construction, marked to show changes.

1. Maintain submittals in cardboard file boxes, labeled to show contents, with dividers by each CSI division. Submittals with each CSI division shall be in order by specification section.
2. Sort submittals by applicable Specification section and file in order of submittal identification number.

B. Record Shop Drawings: Record the types of information specified for all Record Documents.

1. Mark changes on record shop drawings only when Record Drawing would not be capable of showing the change clearly or completely.
2. Mark changes in manner specified for Record Drawings.

3.5 TRANSMITTAL TO COMMISSION

A. The Design-Builder must collect, organize, label, and package ready for reference.

1. Provide cardboard file boxes for submittals.
2. Provide cardboard drawing tubes with end caps for transparencies.
3. Bind print sets with durable paper covers.
4. Label each document (and each sheet of drawings) with " - This document has been prepared using information furnished by _____" (insert the Design-Builder's name), and the date of preparation.

B. The Design-Builder must submit to the Commission, unless otherwise indicated.

END OF SECTION 01800