

**PROJECT MANUAL**

*for the*  
BID DOCUMENTS  
of the Project Entitled:

**ORANGE COUNTY CONVENTION CENTER  
WESTWOOD LOBBY LED DIGITAL DISPLAY  
DESIGN INTENT BID DOCUMENT**

**ORANGE COUNTY, FLORIDA**

Date: JUNE 2014

The Bid Documents consist of the following Contract Documents,

Project Manual: Refer to "Table of Contents" for a complete listing  
of Specification Sections.

COVER SHEET

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END OF SECTION 00010

## SECTION 01010 - SUMMARY OF WORK

### PART 1 GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project consists of a general contract for the work as indicated on the drawings.
  - 1. Project Location:  
Orange County Convention Center`  
9800 International Drive  
Orlando, Florida 32819
- B. The Work includes, but is not limited to, design, fabrication and installation of the Westwood Entry Digital LED sign.
- C. The Work will be constructed under a single prime contract.

#### 1.3 BUILDING/SITE SECURITY

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

#### 1.4 CONTRACTOR USE OF PREMISES

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.
- B. General: Limited use of the premises to construction activities in areas indicated within the limit of the premises. The Contractor may use a designated portion of the site for storage or work areas or any legal purpose.
  - 1. Confine operations to areas within Contract limits. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed.
  - 2. Keep driveways and entrances serving the premises clear and available to the Owner and the Owners' employees at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
  - 3. The Convention Center will continue operations throughout the term of the contract. The Contractor will coordinate with the Convention Center to limit interruptions of Convention Center operations and events. Areas which

require clear and available access include but are not limited to the loading dock, service corridors, public corridors, and catwalks.

4. Contractor work hours shall be from 6:00PM to 2:00AM unless approved otherwise by the PROJECT MANAGER at least 48 hours in advance for work outside those hours. Site will be available on a seven (7) day per week basis.
5. Burial of Waste Materials: Do not dispose of organic and hazardous material on site, either by burial or by burning.

#### 1.5 DISTRIBUTION OF RELATED DOCUMENTS

- A. The Contractor is solely responsible for the distribution of ALL related documents/drawings to ALL appropriate vendors/subcontractors to ensure proper coordination of all aspects of the project and its related parts during bidding and construction.

#### 1.6 CONSTRUCTION BULLETIN BOARD

- A. The Contractor shall erect and maintain a weather protected bulletin board of sufficient size to display all permits, notices and other documents required to be posted for the Project. Said bulletin board shall be in a location that provides unobstructed access for inspection by the Designer, the Project Manager, County Representatives, and authorities having jurisdiction over the project.

### PART 2 PRODUCTS

#### 2.1 ASBESTOS FREE MATERIAL

- A. Contractor shall provide a written and notarized statement on company letterhead(s) to certify and warrant that ONLY ASBESTOS FREE MATERIALS AND PRODUCTS were provided as required by the Designer in Section 01400, QUALITY CONTROL. Such statement shall be submitted with the final payment request. Final payment shall not be made until such statement is submitted. Contractor agrees that if materials containing asbestos are subsequently discovered at any future time to have been included in the construction, the Contractor shall be liable for all costs related to the redesign or modification of the construction of the project so that materials containing asbestos are removed from the facility. If construction has begun or has been completed pursuant to a design that includes asbestos containing materials, the Contractor shall also be liable for all costs related to the abatement of such asbestos.

### PART 3 EXECUTION (Not applicable).

END OF SECTION 01010

## SECTION 01027 – APPLICATION FOR PAYMENT

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.
  - 1. Coordinate the Schedule of Values and Applications for Payment with the Contractor's Construction Schedule, Submittal Schedule, and List of Subcontracts.
- B. Related Sections: The following Sections contain requirements that relate to this Section.
  - 1. Schedules: The Contractor's Construction Schedule and Submittal Schedule are specified in Division 1 Section "Submittals."

#### 1.3 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.
  - 1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
    - a. Contractor's Construction Schedule.
    - b. Application for Payment forms, including Continuation Sheets.
    - c. List of subcontractors.
    - d. Schedule of allowances.
    - e. Schedule of alternates.
    - f. List of products.
    - g. List of principal suppliers and fabricators.
    - h. Schedule of submittals.
  - 2. Submit the Schedule of Values to the County's designated Representative and Designer at the Pre-Construction meeting.
- B. Format and Content: Use the County form Schedules:
  - 1. Identification: Include the following Project identification on the Schedule of Values:

- a. Project name and location.
  - b. Project number.
  - c. Contractor's name and address
  - d. Date of submittal.
  - e. Change Orders shall be added as they are approved.
2. Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
  3. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Break principal subcontract amounts down into several line items.
  4. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed.
    - a. Materials shall be stored on-site only to be included in the Application for Payment.
  5. Provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
  6. Margins of Cost: Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.
    - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at the Contractor's option.

#### 1.4 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Designer and paid for by the Owner.
  1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.

- B. Payment-Application Times: Each progress-payment date is indicated in the Agreement. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment-Application Forms: Use County form for Applications for Payment.
- D. Application Preparation: Complete every entry on the form. Include notarization and execution by a person authorized to sign legal documents on behalf of the Contractor. The Owner will return incomplete applications without action.
  - 1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule.
  - 2. Change Orders amounts may only be shown on the Application for Payment when they are fully executed and approved by the County.
- E. A field review shall be made by the Owner, Designer and the General Contractor one week before Final copies are transmitted to the Designer for his recommendation to the Owner. The Application for Payment shall only include work completed and materials used or stored on site as of the time and date of the field review.
- F. Transmittal: Submit 5 signed and notarized original copies of each Application for Payment.
- G. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.
  - 1. Administrative actions and submittals that shall precede or coincide with this application include:
    - a. Occupancy permits and similar approvals.
    - b. Test/adjust/balance records.
    - c. Equipment demonstrations.
    - d. Final cleaning.
    - e. Keys.
- H. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:
  - 1. Completion of Project closeout requirements.
  - 2. Completion of items specified for completion after Substantial Completion.
  - 3. Ensure that unsettled claims will be settled.
  - 4. Ensure that incomplete Work is not accepted and will be completed without undue delay.
  - 5. Transmittal of required Project construction records to the Owner.
  - 6. Removal of temporary facilities and services.
  - 7. Removal of surplus materials, rubbish, and similar elements.
  - 8. Warranties (guarantees) and maintenance agreements.
  - 9. Maintenance instructions.



10. Meter readings.
11. Contractor's release of lien (on County form)
12. Sub-Contractor's and supplier's release of lien
13. Consent of Surety (dated and notarized)
14. Power-of-Attorney (dated and notarized)
15. Asbestos-Free statement on Contractor's letterhead (dated and notarized)

PART 2 - PRODUCTS - (Not Applicable)

PART 3 - EXECUTION - (Not Applicable)

END OF SECTION 01027

## SECTION 01035 – MODIFICATION PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing contract modifications.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Section 01300 "Submittals" for requirements for the Contractor's Construction Schedule.
  - 2. Section 01027 "Applications for Payment" for administrative procedures governing Applications for Payment.
  - 3. Division 1 Section "Substitutions" for administrative procedures for handling requests for substitutions made after award of the Contract.

#### 1.3 MINOR CHANGES IN THE WORK

- A. The Owner will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or Contract Time, on Owner's standard Supplemental Instructions form.

#### 1.4 CHANGE ORDER PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: The Designer will issue a detailed description of proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
  - 1. Proposal requests issued by the Designer are for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.
  - 2. Within 14 days of receipt of a proposal request, submit an estimate of cost necessary to execute the change to the Designer for the Owner's review.
    - a. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.

- b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
  - c. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time.
- B. Contractor-Initiated Proposals: When latent or unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Designer.
  - 1. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
  - 2. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
  - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
  - 4. Comply with requirements in Section "Product Substitutions" if the proposed change requires substitution of one product or system for a product or system specified.
  - 5. Contractor-initiated proposals shall be submitted within 15 days of the event causing the change.
- C. Proposal Request Form: Use forms which will be provided by the Designer. Sample copies are included at the end of this Section.

## 1.5 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: When the Owner and the Contractor disagree on the terms of a Proposal Request, the Designer may issue a Construction Change Directive. The Construction Change Directive instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
  - 1. The Construction Change Directive contains a complete description of the change in the Work. It also designates the method to be followed to determine change in the Contract Sum or Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
  - 1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

1.6 CHANGE ORDER PROCEDURES

A. On the County's standard form.

PART 2 - PRODUCTS - (Not Applicable)

PART 3 - EXECUTION - (Not Applicable)

END OF SECTION 01035

## SECTION 01040 – COORDINATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and supervisory requirements necessary for coordinating construction operations including, but not necessarily limited to, the following:
  - 1. General project coordination procedures.
  - 2. Conservation.
  - 3. Coordination Drawings.
  - 4. Administrative and supervisory personnel.
  - 5. Cleaning and protection.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 1 Section "Project Meetings" for progress meetings, coordination meetings, and pre-installation conferences.
  - 2. Division 1 Section "Submittals" for preparing and submitting the Contractor's Construction Schedule.
  - 3. Division 1 Section "Materials and Equipment" for coordinating general installation.
  - 4. Division 1 Section "Contract Closeout" for coordinating contract closeout.

#### 1.3 COORDINATION

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

- B. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
  - 1. Prepare similar memoranda for the Owner and separate contractors where coordination of their work is required.
  
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
  - 1. Preparation of schedules.
  - 2. Installation and removal of temporary facilities.
  - 3. Delivery and processing of submittals.
  - 4. Progress meetings.
  - 5. Project closeout activities.
  
- D. Conservation: Coordinate construction operations to assure that operations are carried out with consideration given to conservation of energy, water, and materials.
  - 1. Salvage materials and equipment involved in performance of, but not actually incorporated in, the Work.

#### 1.4 SUBMITTALS

- A. Coordination Drawings: Prepare coordination drawings where careful coordination is needed for installation of products and materials fabricated by separate entities. Prepare coordination drawings where limited space availability necessitates maximum utilization of space for efficient installation of different components.
  - 1. Show the relationship of components shown on separate Shop Drawings.
  - 2. Indicate required installation sequences.
  - 3. Comply with requirements contained in Section "Submittals."

#### PART 2 - PRODUCTS - (Not Applicable)

#### PART 3 – EXECUTION

##### 3.1 GENERAL COORDINATION PROVISIONS

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

### 3.2 CLEANING AND PROTECTION

- A. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration at Substantial Completion.
- B. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to assure operability without damaging effects.
- C. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
  - 1. Excessive static or dynamic loading.
  - 2. Excessive internal or external pressures.
  - 3. Excessively high or low temperatures.
  - 4. Thermal shock.
  - 5. Excessively high or low humidity.
  - 6. Air contamination or pollution.
  - 7. Water or ice.
  - 8. Solvents or chemicals.
  - 9. Light.
  - 10. Radiation.
  - 11. Puncture.
  - 12. Abrasion.
  - 13. Heavy traffic.
  - 14. Soiling, staining, and corrosion.
  - 15. Bacteria.
  - 16. Rodent and insect infestation.
  - 17. Combustion.
  - 18. Electrical current.
  - 19. High-speed operation.
  - 20. Improper lubrication.
  - 21. Unusual wear or other misuse.
  - 22. Contact between incompatible materials.
  - 23. Destructive testing.
  - 24. Misalignment.
  - 25. Excessive weathering.
  - 26. Unprotected storage.
  - 27. Improper shipping or handling.
  - 28. Theft and vandalism.

END OF SECTION 01040

## SECTION 01045 – CUTTING AND PATCHING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for cutting and patching.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Section 01040 "Coordination" for procedures for coordinating cutting and patching with other construction activities.
  - 2. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

#### 1.3 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures well in advance of the time cutting and patching will be performed if the Owner requires approval of these procedures before proceeding. Request approval to proceed. Include the following information, as applicable, in the proposal:
  - 1. Describe the extent of cutting and patching required. Show how it will be performed and indicate why it cannot be avoided.
  - 2. Describe anticipated results in terms of changes to existing construction. Include changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.
  - 3. List products to be used and firms or entities that will perform Work.
  - 4. Indicate dates when cutting and patching will be performed.
  - 5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.
  - 6. Where cutting and patching involves adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with the original structure.
  - 7. Approval by the Designer to proceed with cutting and patching does not waive the Designer 's right to later require complete removal and replacement of unsatisfactory work.



## 1.4 QUALITY ASSURANCE

- A. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would change their load-carrying capacity or load-deflection ratio.
1. Obtain approval of the cutting and patching proposal before cutting and patching the following structural elements:
    - a. Foundation construction.
    - b. Bearing and retaining walls
    - c. Structural concrete.
    - d. Structural steel.
    - e. Lintels.
    - f. Timber and primary wood framing.
    - g. Structural decking.
    - h. Stair systems.
    - i. Miscellaneous structural metals.
    - j. Exterior curtain-wall construction.
    - k. Equipment supports.
    - l. Piping, ductwork, vessels, and equipment.
    - m. Structural systems of special construction.
- B. Operational Limitations: Do not cut and patch operating elements or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut and patch operating elements or related components in a manner that would result in increased maintenance or decreased operational life or safety.
1. Obtain approval of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:
    - a. Primary operational systems and equipment.
    - b. Air or smoke barriers.
    - c. Water, moisture, or vapor barriers.
    - d. Membranes and flashings.
    - e. Fire protection systems.
    - f. Noise and vibration control elements and systems.
    - g. Control systems.
    - h. Communication systems.
    - i. Electrical wiring systems.
    - j. Operating systems of special construction.
- C. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Designer's opinion, reduce the building's aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace construction cut and patched in a Contractor to cut and patch the exposed Work

listed below. If it is impossible to engage the original Contractor, engage another recognized experienced and specialized firm.

- a. Processed concrete finishes.
- b. Roofing.
- c. Ornamental metal.
- d. Preformed metal panels.
- e. Firestopping.
- f. Window wall system.
- g. Stucco and ornamental plaster.
- h. Acoustical ceilings.
- i. Terrazzo.
- j. Finished wood flooring.
- k. Fluid-applied flooring.
- l. Carpeting.
- m. Aggregate wall coating.
- n. Wall covering.
- o. HVAC enclosures, cabinets, or covers.

## 1.5 WARRANTY

- A. Existing Warranties: Replace, patch, and repair material and surfaces cut or damaged by methods and with materials in such a manner as not to void any warranties required or existing.

## PART 2 - PRODUCTS

### 2.1 MATERIALS – GENERAL

- A. Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible if identical materials are unavailable or cannot be used. The Designer's approval is required for materials which are to be used that are not identical to existing. Use materials whose installed performance will equal or surpass that of existing materials.

## PART 3 - EXECUTION

### 3.1 INSPECTION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed before cutting. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding.

1. Before proceeding, meet at the Project Site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

### 3.2 PREPARATION

- A. Temporary Support: Provide temporary support of work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Avoid cutting existing pipe, conduit, or ductwork serving the building but scheduled to be removed or relocated until provisions have been made to bypass them.

### 3.3 PERFORMANCE

- A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
  1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
  2. Cutting: Cut existing construction using methods least likely to damage elements retained or adjoining construction. Where possible, review proposed procedures with the original Contractor; comply with the original Contractor's recommendations.
  3. In general, where cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Concrete shall be cut square. Tile, brick, cement masonry, etc. shall be cut at joints. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  4. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
  5. Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill.
  6. Where services are required to be removed, relocated, or abandoned, by-pass utility services, such as pipe or conduit, before cutting. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.
  7. Remove full tile, brick, cement masonry units, etc., toothing if required, and replace with full uncut replacement materials.

- B. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
  - 1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
  - 2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
  - 3. Where removing walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    - a. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat.
  - 4. Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.
  
- C. Plaster Installation: Comply with manufacturer's instructions and install thickness and coats as indicated.
  - 1. Unless otherwise indicated, provide 3-coat work.
  - 2. Finish gypsum plaster to match existing adjacent surfaces. Sand lightly to remove trowel marks and arises.
  - 3. Cut, patch, point-up, and repair plaster to accommodate other construction.

### 3.4 CLEANING

- A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar items. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

END OF SECTION 01045

## SECTION 01095 – REFERENCE STANDARDS AND DEFINITIONS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 DEFINITIONS

- A. General: Basic contract definitions are included in the Conditions of the Contract.
- B. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on the Drawings; or to other paragraphs or schedules in the Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference. Location is not limited.
- C. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by the Designer, requested by the Designer, and similar phrases.
- D. "Approved": The term "approved," when used in conjunction with the Designer's action on the Contractor's submittals, applications, and requests, is limited to the Designer's duties and responsibilities as stated in the Conditions of the Contract.
- E. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": The term "furnish" means to supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": The term "install" describes operations at the Project site including the actual unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.

- I. "Project site" is the space available to the Contractor for performing construction activities, either exclusively or in conjunction with others performing work as part of the Project. The extent of the Project site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.
- J. "Testing Agencies": A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

### 1.3 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. Specification Format: These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 16-division format and "MasterFormat" numbering system.
- B. Specification Content: These Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
  - 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated as the sense requires. Singular words shall be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.
  - 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor or by others when so noted.
    - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

### 1.4 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with the standards in effect as of the date of the Contract Documents.

- C. Conflicting Requirements: Where compliance with 2 or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different but apparently equal to the Designer for a decision before proceeding.
  - 1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the Designer for a decision before proceeding.
  
- D. Copies of Standards: Each entity engaged in construction on the Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
  - 1. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source and make them available on request.
  
- E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where abbreviations and acronyms are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards-generating organization, authorities having jurisdiction, or other entity applicable to the context of the text provision. Refer to Gale Research Inc.'s "Encyclopedia of Associations," which is available in most libraries.

## 1.5 SUBMITTALS

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

PART 2 - PRODUCTS - (Not Applicable)

PART 3 - EXECUTION - (Not Applicable)

END OF SECTION 01095

## SECTION 01200 – PROJECT MEETINGS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project meetings, including, but not limited to, the following:
  - 1. Preconstruction conferences.
  - 2. Pre-installation conferences.
  - 3. Progress meetings.
  - 4. Coordination meetings.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Section 01040 "Coordination" for procedures for coordinating project meetings with other construction activities.
  - 2. Section 01300 "Submittals" for submitting the Contractor's Construction Schedule.
  - 3. Review each Section of the Specifications for requirements for Pre-installation Conferences.

#### 1.3 PRECONSTRUCTION CONFERENCE

- A. A preconstruction conference shall be held before the starting of construction, at a time convenient to the Owner and the Designer, but no later than 20 days after execution of the Agreement. Hold the conference at the Project Site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
- B. Attendees: Authorized representatives of the Owner, Designer, and their consultants; the Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.



- C. Agenda: Discuss items of significance that could affect progress, including the following:
- i. Attendance List.
  - ii. Introductions.
  - iii. Notice to Proceed issued.
  - iv. Access to site.
  - v. Temporary Facilities.
  - vi. Schedules.
  - vii. Coordination with Owner\Occupants\Sub-Contractors.
  - viii. Responsibility to protect existing Property.
  - ix. Contractor responsible for security of tools and equipment.
  - x. Contractor responsible for safety on the job.
  - xi. Job Superintendent on site at all times work in progress.
  - xii. Scope of work, base bid and accepted alternates.
  - xiii. Use of standard forms.
  - xiv. No change in Contract scope, time, or amount without change order.
  - xv. Application for Payment.
  - xvi. Salvage Materials.

#### 1.4 PREINSTALLATION CONFERENCES

- A. The General Contractor shall conduct a pre-installation conference at the Project Site before each construction activity is started to coordinate all trades without conflicts arising.
- B. Attendees: The Contractor and representatives of manufacturers and fabricators involved in or affected by the installation, and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise the Designer of scheduled meeting dates.
1. Review the progress of other construction activities and preparations for the particular activity under consideration at each pre-installation conference, including requirements for the following:
    - a. Contract Documents.
    - b. Options.
    - c. Related Change Orders.
    - d. Purchases.
    - e. Deliveries.
    - f. Shop Drawings, Product Data, and quality-control samples.
    - g. Review of mockups.
    - h. Possible conflicts.
    - i. Compatibility problems.
    - j. Time schedules.
    - k. Weather limitations.
    - l. Manufacturer's recommendations.

- m. Warranty requirements.
  - n. Compatibility of materials.
  - o. Acceptability of substrates.
  - p. Temporary facilities.
  - q. Space and access limitations.
  - r. Governing regulations.
  - s. Safety.
  - t. Inspecting and testing requirements.
  - u. Required performance results.
  - v. Recording requirements.
  - w. Protection.
2. Record significant discussions and agreements and disagreements of each conference, and the approved schedule. Distribute the record of the meeting to everyone concerned within 3 days of each meeting and include copies to the Owner and the Designer.
  3. Do not proceed with the installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of Work and reconvene the conference at the earliest feasible date.

#### 1.4 PROGRESS MEETINGS

- A. Progress meetings shall be conducted by the County's Designated Representative at regular intervals. The date and time for these meetings shall be determined at the Pre-Construction meeting. Generally, Progress meetings are held weekly during the first third of construction bi-weekly during the middle third of construction and weekly during the last third of construction.
- B. Attendees: In addition to representatives of the Owner and the Designer, each subcontractor, supplier, or other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of the Project.
  1. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to insure that current and subsequent activities will be completed within the Contract Time.
  2. Review the present and future needs of each entity present, including the following:

- a. Interface requirements.
- b. Time.
- c. Sequences.
- d. Status of submittals.
- e. Statue of "Request for Information"
- f. Deliveries.
- g. Off-site fabrication problems.
- h. Access.
- i. Site utilization.
- j. Temporary facilities and services.
- k. Hours of work.
- l. Hazards and risks.
- m. Housekeeping.
- n. Quality and work standards.
- o. Change Orders.
- p. Documentation of information for payment requests.

D. Reporting: The County's Designated Representative will issue a report within 2 days of the Progress Meeting.

#### 1.5 COORDINATION MEETINGS

- A. The General Contractor shall conduct project coordination meetings as may be required to avoid conflicts arising between trades. Project coordination meetings are in addition to specific meetings held for other purposes, such as regular progress meetings and special pre-installation meetings.
- B. Request representation at each meeting by every party currently involved in coordination or planning for the construction activities involved.
- C. Record meeting results and distribute copies within 3 days after each meeting to everyone in attendance, the Owner and the Designer and to any others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS - (Not Applicable)

PART 3 - EXECUTION - (Not Applicable)

END OF SECTION 01200

## SECTION 01300 – SUBMITTALS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submittals required for performance of the Work, including the following:
  - 1. Contractor's construction schedule.
  - 2. Submittal schedule.
  - 3. Warranty Schedule.
  - 4. Daily construction reports.
  - 5. Shop Drawings.
  - 6. Product Data.
  - 7. Samples.
  - 8. Quality assurance submittals.
  - 9. Warranties required for close-out.
- B. Administrative Submittals: Refer to other Division 1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to, the following:
  - 1. Permits.
  - 2. Applications for Payment.
  - 3. Performance and payment bonds.
  - 4. Insurance certificates.
  - 5. List of subcontractors.
- C. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 1 Section "Application for Payment" specifies requirements for submittal of the Schedule of Values.
  - 2. Division 1 Section "Coordination" specifies requirements governing preparation and submittal of required Coordination Drawings.
  - 3. Division 1 Section "Project Meetings" specifies requirements for submittal and distribution of meeting and conference minutes.
  - 4. Division 1 Section "Quality Control" specifies requirements for submittal of inspection and test reports.

5. Division 1 Section "Contract Closeout" specifies requirements for submittal of Project Record Documents and warranties at project closeout.

### 1.3 DEFINITIONS

- A. Coordination Drawings show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or to function as intended.
  1. Preparation of Coordination Drawings is specified in Section 01040 "Coordination" and may include components previously shown in detail on Shop Drawings or Product Data.
- B. Field samples are full-size physical examples erected on-site to illustrate finishes, coatings, or finish materials. Field samples are used to establish the standard by which the Work will be judged.
- C. Mockups are full-size assemblies for review of construction, coordination, testing, or operation; they are not Samples.

### 1.4 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
  1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
    - a. The Designer reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.
  3. Processing: To avoid the need to delay installation as a result of the time required to process submittals, allow sufficient time for submittal review, including time for resubmittals.
    - a. Allow 2 weeks for initial review. Allow additional time if the Designer must delay processing to permit coordination with subsequent submittals.
    - b. If an intermediate submittal is necessary, process the same as the initial submittal.
    - c. Allow 2 weeks for reprocessing each submittal.
    - d. No extension of Contract Time will be authorized because of failure to transmit submittals to the Designer sufficiently in advance of the Work to permit processing.
    - e. The Contractor shall deliver Submittals to the Designer's Office and when advised the review has been completed, the Contractor shall arrange to obtain them from the Designer's Office.

- B. Submittal Preparation: Provide a standard submittal sheet with each submittal, a copy of which is included as part of this section. Provide sufficient number of copies of each submittal for review, one copy will be retained by the reviewing Engineering Consultant, one copy by the Designer for record and the remaining copies returned to the Contractor. Indicate the name of the entity that prepared each submittal on the space provided.
1. Include the following information on the submittal form.
    - a. Project name.
    - b. Date.
    - c. Name and address of the Designer.
    - d. Name and address of the Contractor.
    - e. Name and address of the subcontractor.
    - f. Name and address of the supplier.
    - g. Name of the manufacturer.
    - h. Number and title of appropriate Specification Section.
    - i. Drawing number and detail references, as appropriate.
- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from the Contractor to the Designer using the standard transmittal form, a copy of which is included as part of this section. The Designer will not accept submittals received from sources other than the Contractor.
1. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including variations and limitations. Include Contractor's certification that information has been reviewed for compliance with the Contract Document requirements.
  2. For all submittals, the Contractor shall send a copy of each transmittal to the County's Designated Representative. For the response to each submittal, the Designer shall send a copy of each transmittal to the County's Designated Representative.

## 1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar-chart-type, contractor's construction schedule. Submit the Construction Schedule at the Pre-Construction meeting.
1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the Work as indicated in the "Schedule of Values."
  2. Coordinate the Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittal Schedule, progress reports, payment requests, and other schedules.

- B. Work Stages: Indicate important stages of construction for each major portion of the Work, including submittal review, testing, and installation.
- C. Schedule Updating: Revise the schedule after each meeting, event, or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting. Any revised Schedule shall be submitted to the Designer for review. The completion date will not be changed, unless it has been revised by a Change Order.

## 1.6 SUBMITTAL SCHEDULE

- A. After development and acceptance of the Contractor's Construction Schedule, prepare a complete schedule of submittals. Submit the schedule within 10 days of the date required for submittal of the Contractor's Construction Schedule.
  - 1. The Submittal Schedule shall be submitted at the Pre-Construction meeting.
  - 2. Prepare the schedule in chronological order. Provide the following information:
    - a. Scheduled date for the first submittal.
    - b. Related Section number.
    - c. Submittal category (Shop Drawings, Product Data, or Samples).
    - d. Name of the subcontractor.
    - e. Description of the part of the Work covered.
    - f. Scheduled date for resubmittal.
    - g. Scheduled date for the Designer's final release or approval.
- B. Distribution: Following response to the initial submittal, print and distribute copies to the Designer, Owner, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.
  - 1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.
- C. Schedule Updating: Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

## 1.7 SHOP DRAWINGS

- A. Submit newly prepared information drawn accurately to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce the Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing.

- B. Shop Drawings include fabrication and installation Drawings, setting diagrams, schedules, patterns, templates and similar Drawings. Include the following information:
1. Dimensions.
  2. Identification of products and materials included by sheet and detail number.
  3. Compliance with specified standards.
  4. Notation of coordination requirements.
  5. Notation of dimensions established by field measurement.
  6. Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 36 by 48 inches.
  7. Initial Submittal: Submit one correctable, translucent, reproducible print and one blue- or black-line print for the Designer's review. The Designer will return the reproducible print only.
  8. Resubmittals, if required, will be done in the same fashion as the initial submittal.
  9. Do not use Shop Drawings without an appropriate final stamp indicating action taken.

## 1.8 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, and performance curves.
1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information. Include the following information:
    - a. Manufacturer's printed recommendations.
    - b. Compliance with trade association standards.
    - c. Compliance with recognized testing agency standards.
    - d. Application of testing agency labels and seals.
    - e. Notation of dimensions verified by field measurement.
    - f. Notation of coordination requirements.
  2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
  3. Submittals: Submit one copy of each required submittal for the Designer's record, one copy for the Engineering Consultant and sufficient copies for the Contractor's use and copies for maintenance manuals. The returned copies will be marked with action taken and corrections or modifications required.
    - a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.



4. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities.
  - a. Do not proceed with installation until a copy of Product Data is in the Installer's possession.
  - b. Do not permit use of unmarked copies of Product Data in connection with construction.

## 1.9 SAMPLES

- A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.
  1. Mount or display Samples in the manner to facilitate review of qualities indicated. Prepare Samples to match the Designer's sample. Include the following:
    - a. Specification Section number and reference.
    - b. Generic description of the Sample.
    - c. Sample source.
    - d. Product name or name of the manufacturer.
    - e. Compliance with recognized standards.
    - f. Availability and delivery time.
  2. Submit Samples for review of size, kind, color, pattern, and texture. Submit Samples for a final check of these characteristics with other elements and a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
    - a. Where variation in color, pattern, texture, or other characteristic is inherent in the material or product represented, submit at least 3 multiple units that show approximate limits of the variations.
    - b. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
    - c. Refer to other Sections for Samples to be returned to the Contractor for incorporation in the Work. Such Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of Sample submittals.
    - d. Samples not incorporated into the Work, or otherwise designated as the Owner's property, are the property of the Contractor and shall be removed from the site prior to Substantial Completion.
  3. Preliminary Submittals: Submit a full set of choices where Samples are submitted for selection of color, pattern, texture, or similar characteristics from a range of standard choices.
    - a. The Designer will review and return preliminary submittals with the Designer's notation, indicating selection and other action.

4. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit 3 sets. The Designer will return one set marked with the action taken.
  5. Maintain sets of Samples, as returned, at the Project Site, for quality comparisons throughout the course of construction.
    - a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
    - b. Sample sets may be used to obtain final acceptance of the construction associated with each set.
- B. Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the Work.
1. Field samples are full-size examples erected on-site to illustrate finishes, coatings, or finish materials and to establish the Project standard.
    - a. Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

#### 1.10 QUALITY ASSURANCE SUBMITTALS

- A. Submit quality-control submittals, including design data, certifications, manufacturer's instructions, manufacturer's field reports, and other quality-control submittals as required under other Sections of the Specifications.
- B. Certifications: Where other Sections of the Specifications require certification that a product, material, or installation complies with specified requirements, submit a notarized certification from the manufacturer certifying compliance with specified requirements.
1. Signature: Certification shall be signed by an officer of the manufacturer or other individual authorized to sign documents on behalf of the company.
- C. Inspection and Test Reports: Requirements for submittal of inspection and test reports from independent testing agencies are specified in Division 1 Section "Quality Control".

#### 1.11 DESIGNER'S ACTION

- A. Except for submittals for the record or information, where action and return is required, the Designer will review each submittal, mark to indicate action taken, and return promptly.
1. Compliance with specified characteristics is the Contractor's responsibility.
- B. Action Taken: The Designer and Engineering Consultant will indicate on the Submittal and Transmittal Forms the action taken, as follows:

1. No Exception Taken: When the Designer marks a submittal "No Exception Taken" the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
  2. Exceptions as Noted: When the Designer marks a submittal "Exceptions as Noted," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
  3. Revise and Resubmit: When the Designer marks a submittal "Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.
  4. Rejected; Submit specified item: When the Designer marks a submittal "Rejected; submit specified item" do not proceed with Work covered by the submittal in any manner. Prepare a new submittal complying with the specifications without delay.
  5. Do not use, or allow others to use, submittals marked "Revise and Resubmit" or "Rejected; submit specified item" at the Project Site or elsewhere where Work is in progress.
  6. Other Action: Where a submittal is for information or record purposes or special processing or other activity, the Designer will return the submittal marked "No Action Taken."
- C. Unsolicited Submittals: The Designer will return unsolicited submittals to the sender without action.

## 1.12 WARRANTIES

- A. Provide a list of Warranties within 10 days of the submitting of the construction schedule. They shall be listed by each section of the specification. The warranties are to be provided with the close out items.

PART 2 - PRODUCTS - (Not Applicable)

PART 3 - EXECUTION - (Not Applicable)

END OF SECTION 01300

**SUBMITTAL COVER SHEET**

Date \_\_\_\_\_

Log# \_\_\_\_\_

Contractor \_\_\_\_\_

Owner \_\_\_\_\_

Project Name \_\_\_\_\_  
\_\_\_\_\_

Project No. \_\_\_\_\_

Spec. Section No. \_\_\_\_\_

Dwg. Reference \_\_\_\_\_

Item(s) Submitted \_\_\_\_\_

Manager's Name \_\_\_\_\_

Sub-Contractor/Name Address  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Supplier Name & Address  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Contractor's Approval**

**Designer's Action**

- NO EXCEPTION TAKEN**     **EXCEPTION**  
 **REVISE AND RESUBMIT**  
 **SUBMIT SPECIFIED ITEM**

Reviewing is only for conformance with the design concept drawing of the Project. Corrections or comments made on the Shop Drawings during this review do not relieve Contractor from compliance with requirements of the Drawings and Specifications. The Contractor is responsible for all dimensions which shall be confirmed and correlated at the site; for information that pertains solely to the fabrication processes, or to the means, methods, techniques, sequences and procedures of construction; for coordination of the Work of all trade; and for performing his work in a safe and satisfactory manner.

By \_\_\_\_\_

Date: \_\_\_\_\_

**Engineer's Action**

**Comments**

**SUBMITTAL TRANSMITTAL FORM**

Log # \_\_\_\_\_

Contractor \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Owner \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Project Name \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Project No. \_\_\_\_\_  
 \_\_\_\_\_  
 Spec. Section No. \_\_\_\_\_

<p><b>CONTRACTOR/SUPPLIER</b></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Date _____ Copies _____</p> <p>Substitution Or Yes __ No _____</p> <p>Deviations _____</p>	<p>RECEIVED DATE BY OWNER</p>
<p><b>OWNER to AECOM</b></p> <p>Date _____</p> <p>Copies _____</p> <p>Reviewed By _____</p> <p>Comments _____</p> <p>_____</p>	<p>DATE RECEIVED BY AECOM</p>
<p><b>AECOM TO OWNER</b></p> <p>Date _____</p> <p>Copies _____</p> <p>Reviewed By _____</p> <p>Comments _____</p> <p>_____</p>	<p>DATE RECEIVED BY OWNER</p>
<p><b>OWNER TO CONTRACTOR</b></p> <p>Date _____</p> <p>Copies _____</p> <p>Contractor _____</p> <p>_____</p> <p>To Owner ____ To Field ____ To File ____</p>	<p>DATE RECEIVED BY CONTRACTOR</p>
<p><b>ACTION TAKEN:</b></p> <p>_____ No Exception Taken</p> <p>_____ Exceptions as Noted</p> <p>_____ Revise and Resubmit</p> <p>_____ Rejected; Submit specified item</p> <p>_____ No Action Taken</p>	

## SECTION 01400 – QUALITY CONTROL

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for quality-control services.
- B. Quality-control services include inspections, tests, and related actions, including reports performed by Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by Designer.
- C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.
- D. Requirements of this Section relate to customized fabrication and installation procedures, not production of standard products.
  - 1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified inspections, tests, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-control services required by Designer, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- E. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Section 01045 "Cutting and Patching" specifies requirements for repair and restoration of construction disturbed by inspection and testing activities.

2. Section 01300 "Submittals" specifies requirements for development of a schedule of required tests and inspections.

### 1.3 RESPONSIBILITIES

- A. Owner Responsibilities: Unless otherwise indicated, the Owner shall provide and pay for testing services required by authorities having jurisdiction.
- B. Retesting: The Contractor shall be responsible for the cost of all failed tests and the cost of retesting until satisfactory results are achieved.
- C. Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following:
  1. Provide access to the Work.
  2. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
  3. Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
  4. Provide facilities for storage and curing of test samples.
  5. Deliver samples to testing laboratories.
  6. Provide the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
  7. Provide security and protection of samples and test equipment at the Project Site.
- D. Duties of the Testing Agency: The independent agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual Sections shall cooperate with the Designer and the Contractor in performance of the agency's duties. The testing agency shall provide qualified personnel to perform required inspections and tests.
  1. The agency shall notify the Designer and the Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  2. The agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.
  3. The agency shall not perform any duties of the Contractor.
- E. Coordination: Coordinate the sequence of activities to accommodate required services with a minimum of delay. Coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
  1. The Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities.

#### 1.4 SUBMITTALS

- A. Unless the Contractor is responsible for this service, the independent testing agency shall submit a certified written report, in duplicate, of each inspection, test, or similar service to the Designer. If the Contractor is responsible for the service, submit a certified written report, in duplicate, of each inspection, test, or similar service through the Contractor.
  - 1. Submit additional copies of each written report directly to the governing authority, when the authority so directs.
  - 2. Report Data: Written reports of each inspection, test, or similar service include, but are not limited to, the following:
    - a. Date of issue.
    - b. Project title and number.
    - c. Name, address, and telephone number of testing agency.
    - d. Dates and locations of samples and tests or inspections.
    - e. Names of individuals making the inspection or test.
    - f. Designation of the Work and test method.
    - g. Identification of product and Specification Section.
    - h. Complete inspection or test data.
    - i. Test results and an interpretation of test results.
    - j. Ambient conditions at the time of sample taking and testing.
    - k. Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.
    - l. Name and signature of laboratory inspector.
    - m. Recommendations on retesting.

#### 1.5 QUALITY ASSURANCE

- A. Qualifications for Service Agencies: Engage inspection and testing service agencies, including independent testing laboratories, that are prequalified as complying with the American Council of Independent Laboratories' "Recommended Requirements for Independent Laboratory Qualification" and that specialize in the types of inspections and tests to be performed.
  - 1. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the state where the Project is located.

PART 2 - PRODUCTS - (Not Applicable)



## PART 3 - EXECUTION

### 3.1 REPAIR AND PROTECTION

- A. General: Upon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes. Comply with Contract Document requirements for Division 1 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities, and protect repaired construction.
- C. Repair and protection is Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing, or similar services.

END OF SECTION 01400

**SECTION 01500 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS - SECTION UNDER REVIEW**

**PART 1 – GENERAL**

**1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

- A. This Section includes requirements for construction facilities and temporary controls, including temporary utilities, support facilities, and security and protection.
- B. The following Utilities shall be provided by the Owner:
  - 1. Water service.
  - 2. Temporary electric power and light.
  - 3. Temporary heat.
  - 4. Sanitary facilities.
  - 5. Drinking water.
  - 6. Storm and sanitary sewer.
- C. Temporary Utilities to be provided by the Contractor include, but are not limited to the following:
  - 1. Water distribution.
  - 2. Ventilation.
  - 3. Telephone service.
- D. Support facilities to be provided by the Contractor include, but are not limited to the following:
  - 1. Field offices and storage sheds.
  - 2. Temporary enclosures.
  - 3. Temporary project identification signs and bulletin boards, all as approved by the Owner.
  - 4. Waste disposal services.
  - 5. Rodent and pest control.
  - 6. Construction aids and miscellaneous services and facilities.
- E. Security and protection facilities in construction areas are to be include by the Contractor, but are not limited to, the following:

1. Temporary fire protection.
2. Barricades, warning signs, and lights.
3. Sidewalk bridge or enclosure fence for areas of the site.
4. Environmental protection, if required by the Building Department.

### 1.3 SUBMITTALS

- A. Temporary Utilities: Submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.

### 1.4 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:
  1. Building code requirements.
  2. Health and safety regulations.
  3. Utility company regulations.
  4. Police, fire department, and rescue squad rules.
  5. Environmental protection regulations.
- B. Standards: Comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."
  1. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70 "National Electric Code."
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

### 1.5 PROJECT CONDITIONS

- A. Temporary Utilities: Prepare a schedule, within 14 days of the date established for commencement of the work, indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of permanent service.
- B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Provide new materials. If acceptable to the Designer, the Contractor may use undamaged, previously used materials in serviceable condition. Provide materials suitable for use intended.
- B. Lumber and Plywood:
  - 1. For job-built temporary offices, shops, and sheds within the construction area, provide UL-labeled, fire-treated lumber and plywood for framing, sheathing, and siding.
  - 2. For signs and directory boards, provide exterior-type, Grade B-B high-density concrete form overlay plywood of sizes and thicknesses indicated.
  - 3. For fences and vision barriers, provide minimum 3/8-inch thick exterior plywood.
  - 4. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch thick exterior plywood.
- C. Paint:
  - 1. For sign panels and applying graphics, provide exterior-grade alkyd gloss enamel over exterior primer.
- D. Tarpaulins: Provide waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.
- E. Water: Provide potable water approved by local health authorities.
- F. Open-Mesh Fencing: Provide 0.120-inch- thick, galvanized 2-inch chainlink fabric fencing 6 feet high with galvanized barbed-wire top strand and galvanized steel pipe posts, 1-1/2 inches I.D. for line posts and 2-1/2 inches I.D. for corner posts.

### 2.2 EQUIPMENT

- A. General: Provide new equipment. If acceptable to the Designer, the Contractor may use undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.
- B. Electrical Outlets: Provide properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-Volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.

- C. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures where exposed to breakage. Provide exterior fixtures where exposed to moisture.
- D. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed.
- E. Temporary Offices: Provide prefabricated or mobile unit with lockable entrances, operable windows, and serviceable finishes. Provide heated and air-conditioned unit adequate for normal loading.
- F. Temporary Toilet Units: Provide self-contained, single-occupant toilet units of the chemical, aerated recirculation, or combustion type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- G. Fire Extinguishers: Provide hand-carried, portable, UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for the exposures.
  - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

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

### 3.2 TEMPORARY UTILITY INSTALLATION

- A. Temporary Lighting: When floor, overhead or roof deck requires temporary lighting, provide with local switching.
- B. Temporary Telephones: Provide temporary telephone service throughout the construction period for all personnel engaged in construction activities.

1. At each telephone, post a list of important telephone numbers.

### 3.3 SUPPORT FACILITIES INSTALLATION

- A. Locate field offices, storage sheds, and other temporary construction and support facilities for easy access and in areas acceptable to the Owner
  1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
- B. Provide incombustible construction for offices, shops, and sheds located within the construction area or within 30 feet of building lines. Comply with requirements of NFPA 241.
- C. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.

### 3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Temporary Fire Protection: Comply with NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations."
  - xvii. Locate fire extinguishers where convenient and effective for their intended purpose.
  - xviii. Store combustible materials in containers in fire-safe locations.
  - xix. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire- protection facilities, stairways, and other access routes for fighting fires. Prohibit smoking in hazardous fire-exposure areas.
  - xx. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition.
- B. Permanent Fire Protection: Existing system shall be protected and remain in service. When required to alter and change existing drops or runs, advise the Fire Department of a shut-down of an area and complete the work so that all systems are operating over nights and weekends. Instruct key personnel on use of facilities.

- C. Enclosure Fence areas if required and acceptable to the Owner: Before construction begins, install an enclosure fence with lockable entrance gates. Locate where indicated, or enclose the entire site or the portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from easily entering the site, except by the entrance gates.
  - 1. Provide open-mesh, chain link fencing with posts set in a compacted mixture of gravel and earth.
  
- D. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
  - 1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
  
- E. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near the site.

### 3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by the elements.
  - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
  - 2. Protection: Maintain markers for underground lines. Protect from damage during excavation operations.
  
- C. Termination and Removal: Unless the Designer requests that it be maintained longer, remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair

damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are the Contractor's property. The Owner reserves the right to take possession of project identification signs.
2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where the area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil in the area. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at the temporary entrances, as required by the governing authority.
3. At Substantial Completion, clean and renovate permanent facilities used during the construction period including, but not limited to, the following:
  - a. Replace air filters and clean inside of ductwork and housings.
  - b. Replace significantly worn parts and parts subject to unusual operating conditions.
  - c. Replace lamps burned out or noticeably dimmed by hours of use.

END OF SECTION 01500



## SECTION 01600 - MATERIAL AND EQUIPMENT

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing the Contractor's selection of products for use in the Project.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 1 Section "Reference Standards and Definitions" specifies the applicability of industry standards to products specified
  - 2. Section 01300 "Submittals" specifies requirements for submittal of the Contractor's Construction Schedule and the Submittal Schedule.
  - 3. Division 1 Section "Substitutions" specifies administrative procedures for handling requests for substitutions made after award of the Contract.

#### 1.3 DEFINITIONS

- A. Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms are self-explanatory and have well-recognized meanings in the construction industry.
  - 1. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
    - a. "Named Products" are items identified by the manufacturer's product name, including make or model number or other designation, shown or listed in the manufacturer's published product literature that is current as of the date of the Contract Documents.
    - b. "Foreign Products," as distinguished from "domestic products," are items substantially manufactured (50 percent or more of value) outside the United States and its possessions. Products produced or supplied by entities substantially owned (more than 50 percent) by persons who are not citizens of, nor living within, the United States and its possessions are also considered to be foreign products.

2. "Materials" are products substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
3. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections, such as wiring or piping.

#### 1.4 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same kind from a single source.
  1. When specified products are available only from sources that do not, or cannot, produce a quantity adequate to complete project requirements in a timely manner, consult with the Designer to determine the most important product qualities before proceeding. Qualities may include attributes, such as visual appearance, strength, durability, or compatibility. When a determination has been made, select products from sources producing products that possess these qualities, to the fullest extent possible
- B. Compatibility of Options: When the Contractor is given the option of selecting between two or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.
- C. Foreign Product Limitations: Except under one or more of the following conditions, provide domestic products, not foreign products, for inclusion in the Work:
  1. No available domestic product complies with the Contract Documents.
  2. Domestic products that comply with the Contract Documents are available only at prices or terms substantially higher than foreign products that comply with the Contract Documents.
- D. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products that will be exposed to view in occupied spaces or on the exterior.
  1. Labels: Locate required product labels and stamps on concealed surfaces or, where required for observation after installation, on accessible surfaces that are not conspicuous.
  2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface that is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:
    - a. Name of product and manufacturer.
    - b. Model and serial number.
    - c. Capacity.
    - d. Speed.
    - e. Ratings.

## 1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

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

## PART 2 - PRODUCTS

### 2.1 PRODUCT SELECTION

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, new at the time of installation.
  - 1. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.
  - 2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- B. Product Selection Procedures: The Contract Documents and governing regulations govern product selection. Procedures governing product selection include the following:
  - 1. Specification Requirements: Where Specifications name only one or two products or manufacturers, others may be submitted for review by the Designer as being "acceptable equals" to though specified.

2. Descriptive Specification Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.
3. Performance Specifications Requirements: Where Specifications require compliance with performance.
4. Visual Matching: Where Specifications require matching an established Sample, the Designer's decision will be final on whether a proposed product matches satisfactorily.
5. Visual Selection: Where specified product requirements include the phrase "... as selected from manufacturer's standard colors, patterns, textures ..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Designer will select the color, pattern, and texture from the product line selected.

## PART 3 - EXECUTION

### 3.1 INSTALLATION OF PRODUCTS

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

END OF SECTION 01600

## SECTION 01631 – SUBSTITUTIONS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for handling requests for substitutions.
- B. Related Sections: The following Sections contain requirements that relate to this Section.
  - 1. Section 01095 "Reference Standards and Definitions" specifies the applicability of industry standards to products specified.
  - 2. Section 01300 "Submittals" specifies requirements for submitting the Contractor's Construction Schedule and the Submittal Schedule.
  - 3. Section 01600 "Materials and Equipment" specifies requirements governing the Contractor's selection of products and product options.
- C. Substitutions:
  - 1. Prior to Bid Date:
    - a. A written request for the substitution of a Product must be received by the Procurement Division a minimum of 14 days prior to the receipt of Bids. It will be added to an Addendum if acceptable.
  - 2. After the Award of Contract:
    - a. The OCCC Capital Planning Division and the Design Team Lead will consider a request by the contractor for substitution where the specified product cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
    - b. The OCCC Capital Planning Division and the Design Team Lead will consider a request by the Contractor for a substitution after the award of the Contract where substantial advantage is offered to the Owner in terms of:  
A credit is offered for substitution of a Product accepted as an approved equal to a specified item by the Designer.
      - 1) A Product has been accepted by the Designer as being of greater quality at no additional cost to the Owner.
      - 2) The Products specified, for no fault of the Contractor, cannot be obtained.
      - 3) The Designer will consider a request for substitution when the specified Product cannot be provided in a manner which is compatible with other materials of the work.

- 4) The Designer will consider a request for substitution when the specified Product cannot be properly coordinated with other materials in the work.
  - 5) The Designer will consider a request for substitution when the specified Product cannot receive a warranty as required by the Contract Documents.
3. The Contractor, Subcontractor or Supplier who is recommending the Substitution shall compensate the Designer for expenditures necessary in reviewing the proposed substitution. Prevailing hourly billing rates shall be used plus 20%.

### 1.3 DEFINITION

- A. Definitions in this Article do not change or modify the meaning of other terms used in the Contract Documents.
1. Products are items purchased for incorporation in the Work, regardless of whether they were specifically purchased for the project or taken from the Contractor's previously purchased stock. The term Product as used herein includes the terms "material," "equipment," "system" and other terms of similar intent.
  2. Named Products are products identified by use of the manufacturer's name for a product, including such items as a make or model designation, as recorded in published product literature, of the latest issue as of the date of the contract documents.
  3. Materials are products that must be substantially cut, shaped, worked, mixed, motorized or manually operated, and in particular, a product that requires service connections such as wiring or piping.
  4. Equipment is defined as a product with operational parts, regardless of whether motorized or manually operated, and in particular, a product that requires service connections such as wiring or piping.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction required by the Contract Documents. The following are not considered to be requests for substitutions:
1. Substitutions requested during the bidding period, and accepted by Addendum prior to award of the Contract, are included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.
  2. Revisions to the Contract Documents requested by the Owner, Designer or Engineers are considered as changes and not substitutions.
  3. Specified options of products and construction methods included in the Contract Documents.
  4. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

## 1.4 SUBMITTALS

### A. Substitution Request Submittal:

1. Submit 6 copies of each request for substitution for consideration. Submit requests in the form and according to procedures required for change-order proposals.
2. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers.
3. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:
  - a. Coordination information, including a list of changes or modifications needed to other parts of the Work and or to construction necessary to accommodate the proposed substitution. The Contractor shall certify that the Substitution, if accepted, would be complete and no additional cost to the Owner would be required.
  - b. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements, such as performance, weight, size, durability, and visual effect.
  - c. Product Data, including Drawings and descriptions of products and fabrication and installation procedures.
  - d. Samples, where applicable or requested.
  - e. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.
  - f. Cost information, including a proposal of the net change, if any to the Contract Sum.
  - g. The Contractor's certification that the proposed substitution conforms to requirements in the Contract Documents in every respect and is appropriate for the applications indicated.
  - h. The Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.
4. Designer's Action: If necessary, the Designer will request additional information or documentation for evaluation within one week of receipt of a request for substitution. The Designer will notify the Contractor of acceptance or rejection of the substitution within 2 weeks of receipt of the request, or one week of receipt of additional information or documentation. Acceptance will be in the form of a change order.
  - a. Use the product specified if the Designer cannot make a decision on the use of a proposed substitute within the time allocated.

## PART 2 - PRODUCTS

### 2.1 SUBSTITUTIONS

- A. Conditions: The Designer will receive and consider the Contractor's request for substitution when one or more of the following conditions are satisfied, as determined by the Designer. If the following conditions are not satisfied, the Designer will return the requests without action except to record noncompliance with these requirements.
1. Extensive revisions to the Contract Documents are not required.
  2. Proposed changes are in keeping with the general intent of the Contract Documents.
  3. The request is timely, fully documented, and properly submitted.
  4. The Designer will not consider the request if the specified product or method cannot be provided as a result of the Contractor failure to pursue the Work promptly or coordinate activities properly.
  5. The requested substitution offers the Owner a substantial advantage, in cost, time, energy conservation, or other considerations.
  6. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
  7. The specified product or method of construction cannot be provided in a manner that is compatible with other materials and where the Contractor certifies that the substitution will overcome the incompatibility.
  8. The specified product or method of construction cannot be coordinated with other materials and where the Contractor certifies that the proposed substitution can be coordinated.
  9. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provides the required warranty.
- B. The Contractor's submittal and the Designer's acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with the Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval.

## PART 3 - EXECUTION - (Not Applicable)

END OF SECTION 01631



## SECTION 01700 - CONTRACT CLOSEOUT

### PART 1 – GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout including, but not limited to, the following:
  - 1. Inspection procedures.
  - 2. Project record document submittal.
  - 3. Operation and maintenance manual submittal.
  - 4. Submittal of warranties.
  - 5. Final cleaning.
- B. Closeout requirements for specific construction activities are included in the appropriate Section in Divisions 2 through 48.

#### 1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
  - 1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete.
    - a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
    - b. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
  - 2. Advise the Owner of pending insurance changeover requirements.
  - 3. Identify specific warranties which have been requested pending the date of Substantial Completion, workmanship bonds, maintenance agreements, final certifications, and similar documents.
  - 4. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

5. Advise the Owner and supplier of Finish Hardware to have final changeover of permanent locks made and to provide the keys to the Owner. Advise the Owner's personnel of changeover in security provisions.
  6. Complete startup testing of systems and instruction of the Owner's operation and maintenance personnel. Discontinue and remove temporary facilities from the site, along with mockups, construction tools, and similar elements.
  6. Complete final cleanup requirements, including touchup painting.
  7. Touch up and otherwise repair and restore marred, exposed finishes.
- B. Inspection Procedures: On receipt of a request for inspection, the Designer will either proceed with inspection or advise the Contractor of unfilled requirements. The Designer will prepare the Certificate of Substantial Completion following inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued. The Designer's cost to re-inspect, if required due to the Contractor not being prepared, shall be paid by the Contractor to the Designer prior to Final Inspection.
1. The Designer will repeat inspection when requested and assured that the Work is substantially complete.
  2. Results of the completed inspection will form the basis of requirements for final acceptance.
- C. Closeout Submit the following documents:
1. Submit record drawings, maintenance manuals, final project photographs, damage or settlement surveys, property surveys, and similar final record information.
  2. Deliver tools, spare parts, extra stock, and similar items.
  3. Dated and notarized Power-of Attorney (with consent of surety).
  4. Release of Lien from Contractor.
  5. Sub-Contractor/Supplier Release of Lien.
  6. Notarized letter of Asbestos-Free Construction.

#### 1.4 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.
  2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
  3. Submit a certified copy of the Designer's final inspection list of items to be completed or corrected, endorsed and dated by the Designer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the Designer.

4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion or when the Owner took possession of and assumed responsibility for corresponding elements of the Work.
  5. Submit consent of surety to final payment.
  6. Submit a final liquidated damages settlement statement.
  7. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  8. Submit record drawings, maintenance manuals, final project photographs, damage or settlement surveys, property surveys, and similar final record information.
  9. Deliver tools, spare parts, extra stock, and similar items.
- B. Re-inspection Procedure: The Designer will re-inspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Designer.
1. Upon completion of re-inspection, the Designer will prepare a certificate of final acceptance. If the Work is incomplete, the Designer will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
  2. If necessary, re-inspection will be repeated by the Designer at the Contractor's expense.

#### 1.5 RECORD DOCUMENT SUBMITTALS

- A. General: Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for the Designer's reference during normal working hours.
- B. Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark which drawing is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
  2. Mark new information that is important to the Owner but was not shown on Contract Drawings or Shop Drawings.
  3. Note related change-order numbers where applicable.

4. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets; print suitable titles, dates, and other identification on the cover of each set.
  5. Obtain from the Designer one full set of CAD computer disk and record all revisions as indicated on the as-built drawings.
- C. Record Specifications: Maintain one complete copy of the Project Manual, including addenda. Include with the Project Manual one copy of other written construction documents, such as Change Orders and modifications issued in printed form during construction.
1. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications.
  2. Give particular attention to substitutions and selection of options and information on concealed construction that cannot otherwise be readily discerned later by direct observation.
  3. Note related record drawing information and Product Data.
  4. Upon completion of the Work, submit record Specifications to the Designer for the Owner's records.
- D. Record Product Data: Maintain one copy of each Product Data submittal. Note related Change Orders and markup of record drawings and Specifications.
1. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site and from the manufacturer's installation instructions and recommendations.
  2. Give particular attention to concealed products and portions of the Work that cannot otherwise be readily discerned later by direct observation.
  3. Upon completion of markup, submit complete set of record Product Data to the Designer for the Owner's records.
- E. Record Sample Submitted: Immediately prior to Substantial Completion, the Contractor shall meet with the Designer and the Owner's personnel at the Project Site to determine which Samples are to be transmitted to the Owner for record purposes. Comply with the Owner's instructions regarding delivery to the Owner's Sample storage area.
- F. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order. Identify miscellaneous records properly and bind or file, ready for continued use and reference. Submit to the Designer for the Owner's records.

- G. Maintenance Manuals: Provide three sets of organize operation and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual, heavy-duty, 2-inch, 3-ring, vinyl-covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder. Include the following types of information:
1. Emergency instructions.
  2. Spare parts list.
  3. Copies of warranties.
  4. Wiring diagrams.
  5. Recommended "turn-around" cycles.
  6. Inspection procedures.
  7. Shop Drawings and Product Data.
  8. Fixture lamping schedule.

## PART 2 - PRODUCTS - (Not Applicable)

## PART 3 – EXECUTION

### 3.1 CLOSEOUT PROCEDURES

- A. Operation and Maintenance Instructions: Arrange for each Installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following items:
1. Maintenance manuals.
  2. Record documents.
  3. Spare parts and materials.
  4. Tools.
  5. Lubricants.
  6. Fuels.
  7. Identification systems.
  8. Control sequences.
  9. Hazards.
  10. Cleaning.
  11. Warranties and bonds.
  12. Maintenance agreements and similar continuing commitments.
- B. As part of instruction for operating equipment, demonstrate the following procedures:
1. Startup.
  2. Shutdown.
  3. Emergency operations.
  4. Noise and vibration adjustments.

5. Safety procedures.
6. Economy and efficiency adjustments.
7. Effective energy utilization.

### 3.2 FINAL CLEANING

- A. General: The General Conditions require general cleaning during construction. Regular site cleaning is included in Division 1 Section "Construction Facilities and Temporary Controls."
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
  1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.
    - a. Remove labels that are not permanent labels.
    - b. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
    - c. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to their original condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.
    - d. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
    - e. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean; remove stains, spills, and other foreign deposits. Rake grounds that are neither paved nor planted to a smooth, even-textured surface.
- C. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.
- D. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of lawfully.

1. Where extra materials of value remain after completion of associated Work, they become the Owner's property. Dispose of these materials as directed by the Owner.

END OF SECTION 01700

## SECTION 01740 – WARRANTIES

### PART 1 – GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for warranties required by the Contract Documents, including manufacturers standard warranties on products and special warranties.
  - 1. Refer to the General Conditions for terms of the Contractor's period for correction of the Work.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Section 01300 "Submittals" specifies procedures for submitting warranties.
  - 2. Section 01700 "Contract Closeout" specifies contract closeout procedures.
  - 2. Division 10 for specific requirements for warranties on products and installations specified to be warranted.
  - 3. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

#### 1.3 DEFINITIONS

- A. Standard product warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
- B. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.



#### 1.4 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.
- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
- D. Owner's Recourse: Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.
  - 1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
- E. Where the Contract Documents require a special warranty, or similar commitment on the Work or part of the Work, the Owner reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

#### 1.5 SUBMITTALS

- A. Submit written warranties to the Designer as part of the close-out documents. The Designer's Certificate of Substantial Completion designates the commencement date for warranties.
  - 1. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Designer within 15 days of completion of that designated portion of the Work.

- B. When the Contract Documents require the Contractor, or the Contractor and a subcontractor, supplier or manufacturer to execute a special warranty, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner, through the Designer, for approval prior to final execution.
  - 1. Refer to Division 10 for specific content requirements and particular requirements for submitting special warranties.
- C. Form of Submittal: At Final Completion compile 2 copies of each required warranty properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
- D. Bind warranties and bonds in heavy-duty, commercial-quality, durable 3-ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
  - 1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address, and telephone number of the Installer.
  - 2. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project title or name, and name of the Contractor.
  - 3. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 - PRODUCTS - (Not Applicable)

PART 3 – EXECUTION

3.1 LIST OF WARRANTIES

- A. Schedule: Provide a Warranties Schedule on products and installations of items which will require the Contractor to provide warranties with the close-out documents. This schedule shall be submitted with the Submittal Schedule.

END OF SECTION 0174

## SECTION 10440 – INTERIOR SIGNS - ELECTRONIC DISPLAYS

### PART 1 – GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SCOPE OF WORK

- A. The contractor shall provide all labor, materials, and equipment necessary for the detailed design, engineering, fabrication, and installation of the RGB LED digital message sign as described in this section, so that it is completely operational. The work required includes but is not limited to the detailed design, engineering, fabrication, and installation of a RGB LED digital message sign in the Westwood Parking Lobby at the Orange County Convention Center West Concourse in Orlando, Florida. The drawings provided express visual design intent only. Final design and engineering shall remain the responsibility of the Contractor.
- B. Horizontal beam will be provided for each of the five (5) display units which make up the Westwood Lobby LED Digital Display. The beams will be mounted at 12'-10" AFF (to the top of the beam). Each beam will support at a maximum 3000 lbs. The contractor is required to make power and data connections which will be provided within 10 feet of each unit.
- C. The contractor shall verify existing conditions prior to commencement of any work. Where field conditions vary substantially from those shown in the contract documents, contractor shall notify owner or owner's representative in writing upon discovery.
- D. Contractor shall examine and become familiar with those areas of the building and site affected by this project prior to submitting a bid price. Submission of a bid price will be considered evidence that the contractor has become familiar with the existing conditions and difficulties that may affect the work of this project.
- E. It is the contractor's responsibility to coordinate the work of all trades on the project. The contractor shall ensure that devices and equipment are installed logically and in keeping with the design intent. Any remedial work to correct coordination deficiencies shall be at the contractor's sole expense.

- F. BASE BID - Digital display shall include a pixel configuration of between 7 mm and 10 mm, full color RGB LED digital message sign with aluminum and steel construction. Sign shall have front and rear access for service, specifications must be submitted prior to display final design. Allowable manufacturers include: Daktronics, Nanolumins, Watchfire, and YESCO.
1. Comparable models must meet or exceed the following specifications:  
Daktronics DVN-652-10MN-WN, RGB 3-in-1 pixel configuration, 16 bit (281 trillion) color capacity, 256 level dimming, 4800Hz LED refresh rate, 4000 nits intensity, 100,000 hours LED lifetime, with an operational temperature rating from -40 to 126 degrees Fahrenheit.

### 1.3 GENERAL

- A. This work shall include all labor, materials and equipment necessary for the proper fabrication and installation of a fully functional system in accordance with requirements outlined on the drawings, recommendations from the manufacturers, and applicable codes and standards including but not limited to the Florida Building Code (FBC), the National Electric Code (NFPA 70), and TIA and BSCSI Standards. Provide and install any and all equipment and materials required for a complete and fully functional system. Provide equipment and materials in quantities necessary to meet the project requirements and the design intent.

## PART 2 – PRODUCTS

### 2.1 CONNECTIONS

- A. The contractor shall be responsible for making power and data connections which will be provided within 10 feet of the sign location as well as connecting owner provided components. Content will be managed using AppSpace Video Wall application with MediaVue D6 SureVue Digital Media Player located within the IDF room on Level 3 of the West Entry and OCCC will obtain the AppSpace license(s). AppSpace control device will be purchased by the owner. The contractor shall connect sign components to provided Appspace connections and connect each sign to the provided power source. One or multiple video imaging processors may be required depending on the LED system design by contractor. The contractor is required to provide processor(s) as needed for the system to be a fully functional digital wall of continuous graphic and/or video content. The system must have the flexibility to offer the client the option to also run individual content to each of the display units, if required.

## 2.2 MATERIALS

- A. Aluminum and/or steel shall be suitable for support structures and frame components, as approved by Owner. Surface finish shall be smooth, free of extrusion marks or imperfections. Alloy shall be selected to meet the structural requirements of the specific application.
- B. All support structures and frame components are to be painted using Matthews Acrylic Polyurethane low VOC, MP 59647 Black is Back, satin finish as approved by owner.
- C. Digital display shall be framed with aluminum and/or steel trim to screen edge to conceal internal components and mechanical connections and painted to match structure. Frame shall provide for concealed placement of necessary computer components, devices and connections and be accessible for maintenance/repair.

## PART 3 – EXECUTION

### 3.1 FIELD VERIFICATION

- A. Verify all conditions and sign dimensions in the field. Contractor to coordinate all signage requirements with the architectural, structural, lighting, electrical, and telecommunications drawings to ensure that all proposed signs can be installed, with power and required data connections, and structurally supported. Verification of conditions and sign dimensions to be completed prior to sign fabrication and approval of all required submittals.

### 3.2 SHOP DRAWINGS

- A. The Contractor shall coordinate with the design team for approval of engineered shop drawings which reflect the design intent of this document.
- B. The Contractor is expected to provide all details necessary to effectively explain and specify the fabrication process and the expected performance of the installed product.
- C. The Contractor must demonstrate through detailed shop drawings their complete understanding of the desired final product and the method/process by which they are producing said product.
- D. The Contractor is responsible to field measure and verify with architectural drawings prior to submitting Shop Drawings.

### 3.3 LABELS

- A. Locate markings, labels, manufacturer names and other identifications so as to be concealed from public view and as acceptable by the Owner's Representative. No trade name or other identification shall appear on any item where it will be seen by the public except as specifically approved by the Owner's Representative in advance.

### 3.4 WARRANTY

- A. Submit to the Owner's Representative a 1-year written warranty (effective the date of final acceptance) covering the new sign. Contractor will agree to repair or replace defective sign elements. Upon notification of such defective signs within the warranty period, make necessary repairs or replacement at the convenience of the Owner's Representative.

### 3.5 MANUAL

- A. Contractor shall prepare a Maintenance and Operating Manual comprised of cleaning and operations needs for the sign. This shall include information on repair due to common vandalism, changing of messages and parts replacement needs. Contractor shall supply four (4) copies of the Maintenance Manual to the owner and 1 digital copy.

### 3.6 THERMAL MANAGEMENT

- A. While maintaining a proper weather seal, Contractor shall provide an automatic thermal management system within the display unit which will allow sufficient ventilation of sign components to prevent overheating or warping; allowing for color of sign, mounting surface, climate conditions as per the temperature thresholds required for all operational components per manufacturer specifications.
- B. Contractor to ensure the placement of supports, brackets, connections, and covers do not interfere with airflow management or other necessary functions of the LED display. In providing for ventilation, Contractor shall protect sign from elements that might cause operational or cleaning problems.
- C. Contractor must demonstrate temperature control at the time of acceptance and continually test temperature readings over a period of 90 days after acceptance. Any additional modifications required to maintain temperature within the range defined within this document will be the responsibility of the Contractor.

### 3.7 INSTALLATION

- A. The contractor shall be responsible for installation, adjustment, and testing of all system equipment and materials as necessary for a complete and fully functional system. Specifically, the contractor shall accomplish the installation of all contractor provided equipment whether or not noted; installation of all required cables, associated materials, and termination of said cables; and make adjustments as necessary to provide a complete and finished assembly to the satisfaction of the owner and designer. The contractor must review all drawings provided to fully understand the scope of work and design intent of this project.
- B. The contractor shall be responsible for manufacturer recommended adjustments of all digital components, brackets, supports, etc. so that displays are perfectly butted against one another in order to provide a single visual display with the smallest possible bezel between digital displays and all display surfaces aligned to a single physical plane.

### 3.8 SYSTEM TESTING & VALIDATION

- A. The Contractor shall be required to thoroughly test the system prior to acceptance. All devices should be tested in a stand-alone mode prior to installation and connecting the device to the system.
- B. When the signage installation is complete, the Contractor shall complete a structured plan and demonstration of acceptance tests to ensure organized and efficient testing.
- C. Prior to each stage of testing the Contractor shall submit test procedures and technical acceptance criteria to be used in system testing. Test procedures shall comply with the approved Test Plan and shall specifically include:
  - 1. Copy of the test sheet for each test to be performed
  - 2. Scope and purpose of the test
  - 3. Equipment and/or software to be tested
  - 4. Range of values or output results considered acceptable
  - 5. Test forms with entries for test date and initials for test personnel and witnesses
- D. Although digital graphic content may be necessary to demonstrate and verify the quality and functionality of the delivered product, the Contractor will not be required to create original digital graphic content to be played on the system.
- E. The Contractor shall provide Owner and /or Owner representative the opportunity to witness all testing. Tests may include, but not be limited to the following:
  - 1. Send and activate stored messages or content
  - 2. Blank the display
  - 3. Retrieve messages from a sign library

4. Activate an ad-hoc quick message that is created immediately, not loaded from a library
  5. Perform diagnostics of sign subsystems, such as power supplies, sensors, climate control devices, etc.
  6. Perform pixel testing and report coordinates of any failed pixels with failure detection
- F. On a reasonable request and with at least a ten (10) working day notice, the Contractor shall demonstrate that the test procedure completely identifies the parameter being demonstrated or the fault condition being tested. The Contractor shall provide certification of compliance at the successful completion of all testing. This certification shall be in the form of a comprehensive test report as performed by either the Contractor or a qualified third-party testing agency. The testing shall have been completed using industry accepted test methods.
- G. In the event that any portion of the system or equipment does not function properly the contractor shall accomplish additional work as necessary to identify, document, and resolve the issue(s) and then reschedule another test with all required attendees.

### 3.9 SPARE PARTS

- A. As a condition of Final Acceptance, the contractor shall deliver to the Owner the following spare parts listed below. These components are:
1. LED modules, no less than 2% of total used in the construction of sign
  2. One video image processor, if a processor is required.
  3. Any components recommended by the manufacturer for maintaining the system during the five (5) year maintenance period
  4. Any special tools or testing equipment required for maintaining the system during the five (5) year maintenance period

END OF SECTION 10440