

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. This Section establishes the procedures required for project documentation.

**1.2 RELATED REQUIREMENTS**

- A. Section 01 31 01, Building Information Modeling (BIM)

**1.3 CLOSEOUT SUBMITTALS**

- A. At Contract closeout, the Contractor shall deliver the Record Documents to the Owner's Authorized Representative (OAR). These records will be combined with the files from the Program Management Computer System and Central Document Files to make a complete history of the design and construction of the Project.
- B. Record Document Finish Manual: This manual is required for all items requiring submittal for color, texture or finish selection. The finish manual shall be of "book" style with pages suited for mounting material samples.
- C. Accompany submittal with transmittal letter in duplicate, containing:
1. Date.
  2. Project title and number.
  3. Contractor's name and address.
  4. Title and number of each record document.
  5. Signature of Contractor or the Contractor's Authorized Representative (CAR).

**PART 2 - PRODUCTS**

**2.1 MARKING DEVICES**

Provide felt-tip marking pens for recording information in the color code designated by the OAR at the Pre-Construction Conference.

**2.2 DRAFTING SERVICES**

Retain competent drafting services, as necessary, for transfer of "mark up notations" from information recorded during construction.

**2.3 MODEL DEFINITIONS**

**Design Model:** "a Model that has reached the stage of completion that would customarily be expressed by an architect or engineer in two-dimensional Construction Documents."

**Federated Model:** Distinct component models "linked" together in such a manner that the linked data sources do not lose their identity or integrity by being so linked. (Examples: Navisworks model, Combined Revit Model, Glue Model)

**Construction Model:** "the equivalent of shop drawings and other information useful to construction... a Model that consists of data imported from a Design Model or, if none exist, from a designer's Construction Document."

**As-Built Model:** The collection of Contractor and Subcontractor fabrication models that have been updated to reflect the finished field conditions.

**Record Model:** An updated design model that is completed at the end of the project with the construction Teams provided hand markups, digital markups, sub-contractor fabrication models, and other models that include the As-Built conditions that may vary from the contract documents or better define the as built condition and/or location.

**PART 3 - EXECUTION**

**3.1 RECORD DOCUMENTS**

The Contractor shall maintain at the Project site one marked-up record copy of:

- A. Plans.
- B. Specifications.
- C. Addenda.
- D. Change Orders and other modifications to the Contract.
- E. OAR Written Instructions.
- F. Approved shop drawings, product data and samples.
- G. Field Test Records, to include Commissioning Plan and Test Results and Final Report.
- H. Construction photographs.
- I. As-built 3D Models (in native model format) and signed off 3D coordination models and print outs. Refer to Section 01 31 01 Building Information Modeling (BIM), if applicable, for BIM-related procedures.
- J. Current 4D and 5D models
- K. ETAM Asset data sheets
- L. Federated Model developed from all trade models into a Navisworks model.

**3.2 MAINTENANCE OF DOCUMENTS AND SAMPLES**

- A. Store documents in Contractor's field office apart from documents used for construction.
  - 1. Provide files and racks for storage of documents.
  - 2. Provide secure storage space for storage of samples.
- B. File documents and samples in accordance with the direction of the OAR.
- C. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
- D. Make documents and samples available at all times for inspection by OAR.
- E. Incomplete or out of order documents and samples will be grounds for not approving application for payment.

**3.3 RECORDING**

- A. Label each document "PROJECT RECORD", in neat large printed letters.
- B. Record information concurrently with the Project construction progress. Do not conceal any work until required information is recorded.
- C. Drawings: Legibly mark to record actual construction:
  - 1. Depths of various elements of foundation in relation to finish first floor datum.
  - 2. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

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3. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
  4. Field changes of dimension and detail.
  5. Changes made by Field Order or by Change Order.
  6. Details not on the original Plans.
  7. Revisions to details shown on the Plans.
  8. Revisions to electrical circuitry.
  9. Actual equipment locations.
  10. Duct size and routing.
  11. References to related shop drawings and modifications.
  12. Note construction change directive numbers, alternate numbers, Change Order numbers and similar identification.
- D. Permanent Record Drawings (As-Built Models and Drawings generated from them).
1. The Contractor shall submit one (1) complete draft record set to the OAR for review in accordance with Special Provision 12.0. After the draft record approval, the Contractor shall submit a final record set of As-Built Models and As-Built Drawings in electronic format as prescribed by the DFW BIM Manual, Airport CADD Standards Manual (CADD Manual) and this Section.
  2. The Contractor shall submit a complete, organized set of electronic 3D model files including individual sheet files, border files, base files, reference files, and any other type of file used to create each of the final .pdf sheet files. The files shall be organized in the standard organized folder structure that was used to create the .pdf sheet file from the individual sheet file. Each sheet file shall be saved with the border file and all base or reference files attached and functioning upon opening the individual sheet file.
  3. Refer to Special Provision 12.0 for additional requirements including the Contractor's endorsement of each sheet for the final submission of the Permanent Record Drawings.
  4. The Contractor shall submit one (1) copy of all Permanent Record Drawings files to the OAR on DVDs.
  5. Converted As-Built Drawings require the appropriate certifications, endorsements, professional seals, and signatures.
  6. Sheets shall be provided in "½ size" sheets – (equivalent to 17" x 22").
  7. Drawings may be bond copy affixed with appropriate certifications, endorsements, professional seals and signatures.
  8. The As-Built set shall be arranged according to the Contract Plans sheet numbering and Specification numbering system used in the Contract Documents, including supplemental agreement and delivery order numbers. The Contractor shall provide an index and cross-referenced listing of each drawing sheet in the As-Built set.
- E. Specifications and addenda: Legibly mark each section to record:

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1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
2. Changes incorporated into the Contract by Field Order or by Change Order or Request for Information (RFI).

#### **3.4 BURDEN OF ACCURACY**

Reference General Provisions for requirements.

#### **3.5 RECORDING**

- A. Post changes and modifications to the Contract Documents as they occur. The OAR will periodically review record documents to assure compliance.
- B. The Contractor shall bring the current set of As-Built Drawings to the first weekly meeting of the month for the OAR review.

## **PART 4 - MEASUREMENT AND PAYMENT**

Not Used.

**– END OF SECTION –**