

SECTION 017839

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. The Work of this Section includes, but is not limited to, requirements for the following procedures:
 - 1. Record prints.
 - 2. Final record drawings.
 - 3. Operations and maintenance submittals and instructions.
- B. Sustainable Design Intent: Refer to Section 018113 – SUSTAINABLE DESIGN REQUIREMENTS.
- C. Related work includes, but is not limited to, the following work under other Sections:
 - 1. Availability and restriction for use of project electronic files: Section 011400 – WORK RESTRICTIONS.
 - 2. Availability of electronic files for preparation of record documents: Section 011400 – WORK RESTRICTIONS.
 - 3. Surveying and field engineering: Section 013100 – Project Management and Coordination.
 - 4. Photographic documentation of construction: Section 013200 – CONSTRUCTION PROGRESS DOCUMENTATION.
 - 5. General requirements for submittals: Section 013300 - SUBMITTAL PROCEDURES.
 - 6. Other submittals required at the completion of the Work: Section 017700 – CLOSEOUT PROCEDURES.
 - 7. Documentation required for commissioning: Section 018100 – COMMISSIONING.

1.3 DEFINITIONS

- A. Record Prints are full sets of black-line or blue-line prints of Contract Drawings, kept at the Project Site and marked regularly to record as-built conditions as specified herein.
- B. Final Record Drawings: Reproducible drawings or electronic files prepared from completed and approved Record Prints.
- C. Final Record Coordination Drawings: Reproducible drawings or electronic files prepared from updated prints of approved coordination drawings, to record as-built conditions.

1.4 SUBMITTALS

- A. Record Prints: Periodic submittal of prints of Drawings marked to indicate Work completed and changes in the Work, as specified in this Section:
 - 1. Record Prints
 - 2. Coordination Drawing Record Prints
- B. Final Record Drawings: Reproducible drawings, as specified in this Section:
 - 1. Final Record Drawings
 - 2. Final Record Coordination Drawings
- C. Operations and Maintenance Submittals:
 - 1. Maintenance Manuals
 - 2. Schedule of Training and Instruction for mechanical and electrical systems.

PART 2 - PRODUCTS

2.1 RECORD DOCUMENTS, GENERAL

- A. The General Contractor shall maintain Record Prints of site plans, landscape drawings, architectural drawings, and structural drawings.
- B. Filed Sub-Contractors shall maintain Record Prints of the Work of the following Sections:
 - 1. Section 210000 – Fire Protection.
 - 2. Section 220000 – Plumbing.
 - 3. Section 230000 – Heating, Ventilating, and Air Conditioning.
 - 4. Section 260000 – Electrical Work.

2.2 RECORD PRINTS

- A. During the progress of the Work, the General Contractor shall keep on file at all times two (2) complete and separate sets of black line prints of the entire set of Contract Drawings. Each set shall be updated daily to record the following information:
 - 1. Status of Work: One set shall be used to indicate the progress of the Work installed by coloring in the various pipelines, ducts, and apparatus as erected.
 - 2. Revisions: The second set shall be accurately and promptly updated with colored inks, daily as the Work progresses, to accurately record all revisions to the Work, including, but not limited to, the following:
 - a. Fire Protection, Plumbing, Heating and Ventilating, and Electrical Work, wherever Work was installed other than as shown on the Contract Drawings or described in the Specifications
 - b. Locations, elevations, sizes, etc. of all concealed and buried utilities, ducts, and services, including exterior utility and storm drainage lines.
 - c. The General Contractor shall be responsible for assuring that the various revisions are delineated by the specific trades involved.

3. Both sets shall be kept available at all times for use and inspection by the Architect and the Owner.
- B. Refer to Section 011400 Work Restrictions for Project Electronic Files to be made available for use by the Contractor in the preparation of Final Record Drawings.
- C. Transfer all information from the updated Record Prints to the electronic files at least once every three months.
 1. Submit three prints of each updated drawing to the Architect at least three times during construction: when the work is approximately 1/4, 1/2, and 3/4 complete.
 2. When roughing in for any particular area is completed, it shall be shown on the Record Prints and a copy submitted for Architect's review.

2.3 FINAL RECORD DRAWINGS

- A. Before completion of the Work, and when directed by the Architect, the General Contractor and all indicated subcontractors shall perform the following:
 1. Transcribe all previously recorded information from Record Prints onto the electronic files.
 2. Make all final changes and corrections to the electronic files for the Final Record Drawings.
 3. Signatures Required: The General Contractor or Filed Sub-Contractor shall sign each drawing for which they are responsible, as certification that the work was installed as shown.
 4. Deliver signed, completed Final Record Drawings to Architect.
- B. Acceptance by the Architect of the completed Final Record Drawings shall be a prerequisite for Substantial Completion.
- C. Shop Drawings will not be acceptable as Final Record Drawings for the Project.
- D. The Architect shall be the sole judge of the acceptability of Final Record Drawings.
- E. Special Requirements for Final Record Drawings of Site Work:
 1. Record Drawings for exterior utilities and other items below grade shall include accurate locations of the following:
 - a. The points where such items enter the building and property lines.
 - b. All turns, offsets, and other changes in direction below grade.
 - c. All valves and other appurtenances.
 2. Indicate locations of these items using dimensions to adjacent permanent benchmarks or structures as approved by the Architect. Reliance on scale only to locate any temporary or concealed construction will not be acceptable.
 3. Final Record Drawings for work below grade shall be submitted immediately upon completion of utility line installation and prior to concealment of the work
 4. Refer to Division 2 Sections for additional requirements for Final Record Drawings of site work.

2.4 RECORD COORDINATION DRAWINGS

- A. Record progress of the Work and modifications and corrections on a set of prints of approved coordination drawings. Follow procedures as for Record Prints.
- B. Final Record Coordination Drawings shall be prepared using information from approved record copies of coordination drawings as for Final Record Drawings.

2.5 MAINTENANCE MANUALS

- A. Upon Substantial Completion of the Work, submit maintenance schedules, maintenance manuals, and all approved Shop Drawings, presenting full details for care and maintenance of visible surfaces and all equipment furnished and installed under the Contract.
- B. Maintenance manuals shall consist of manufacturer's catalog cuts with descriptive information, lubricating and maintenance instructions, parts lists, usage instructions, names, addresses and telephone numbers where replacement parts and service can be quickly obtained, and all other information required for the Owner to use, maintain, and service the items properly.
- C. Upon Architect's approval of drafts, submit two (2) corrected copies properly bound in a logical and well arranged order, with index, to the Architect for transmittal to the Owner.

PART 3 - EXECUTION

3.1 TRAINING AND INSTRUCTIONS

- A. The Contractor shall arrange for instruction for the Owner's employees, to insure proper operation of the equipment furnished.
 - 1. It is the intent of this paragraph to require the Contractor and the applicable Subcontractors to furnish as much detailed instruction as is necessary to educate the Owner's on-site personnel in the proper use of the equipment.
 - 2. This instruction shall be provided by a qualified trainer who is also a manufacturer's certified technician with expertise with the specific system or equipment for which training is required. In some cases, this may require more than one visit to the Project by those responsible for the instruction.
 - 3. The Contractor and, in particular, the Plumbing, Heating and Ventilating, and Electrical Subcontractors shall not assume that the Owner's employees possess special expertise or have had any previous experience whatsoever in the operation and maintenance of sophisticated mechanical and electrical equipment.
 - 4. Submit the schedule for instructional sessions to the Owner. Do not proceed with instruction until Owner has approved schedule.
 - 5. Refer to specific technical sections for additional requirements specific to particular equipment and systems.
- B. For major items of mechanical and electrical equipment, instructions and demonstrations shall be performed during the initial start-up period and, if necessary, during one or more return visits as may be required.
- C. Videotape: Instruction sessions and demonstrations shall be video-recorded by professional videographers in DVD format, using tripods, broadcast-quality video cameras and proper lighting. Close-ups of items being demonstrated shall be included. Sound recording shall be clear and perfectly intelligible. Video shall be edited as required to provide a permanent ref-

erence. Each session and demonstration shall be included, except where waived by the Architect, and all DVDs shall be properly labeled as to date, subject, and presenter. Provide two (2) copies of each DVD.

END OF SECTION