

**SECTION 017800  
PROJECT CLOSEOUT**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Project record documents.
- B. Operation and maintenance data.
- C. State Health manual for final inspection.
- D. Warranties and bonds.

**1.02 RELATED REQUIREMENTS**

- A. Section 013000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- B. Section 017810 - Closing Documents Worksheet.
- C. Section 017820 - Contractor's General Warranty.
- D. Individual Product Sections: Specific requirements for operation and maintenance data.
- E. Individual Product Sections: Warranties required for specific products or Work.

**1.03 SUBMITTALS**

- A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
- B. Operation and Maintenance Data:
  - 1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
  - 2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
  - 3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
- C. Warranties and Bonds:
  - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
  - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
  - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

**3.01 SUBSTANTIAL COMPLETION**

- A. General:
  - 1. The Work or designated portion thereof will not be considered Substantially Complete and no Certificate of Substantial Completion will be issued until all of the following are completed:
    - a. All systems are operational as designed.
    - b. All designated or required governmental inspections or certifications have been made and posted.
    - c. The Record Document Manual as defined in this Section has been received and reviewed by Owner and Architect including receipt of CO or temporary CO.
    - d. All final finishes are in place.
  - 2. As a further condition of Substantial Completion, the Contractor(s) shall certify that all remaining work will be completed within 30 consecutive calendar days following the Date

of Substantial Completion, and the failure to do so shall automatically reinstate the provisions for damages due the Owner as contained elsewhere in the Agreement or as provided by law for such period of time as may be required by the Contractor to fully complete the work whether the Owner has occupied the work or not.

3. All forms to be used shall be American Institute of Architect (AIA) forms when these forms exist.

B. Procedures:

1. 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.
2. Deliver tools, spare parts, extra stock, and similar items.
3. Make final change-over of permanent locks and transmit keys to the Owner. Advise the Owner's personnel of change-over in security provisions.
4. Complete start-up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups, and similar elements.
5. Complete final clean up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.
6. Assemble Record Documents per this Section and Section 016000.

C. Inspection Procedures:

1. On receipt of a request for inspection for Substantial Completion, the Architect will review with Owner all documentation and other requirements prior inspecting for Substantial Completion. If all requirements have been fulfilled, the Architect will inspect the work, prepare a list of non-conforming work (punch list), and prepare a draft of the Certificate of Substantial Completion. The draft Certificate of Substantial Completion will be reviewed by Owner, Contractor and Architect for completeness including provisions for maintenance, security, utilities, insurance, and operations. The Architect will incorporate any needed revisions and issue the Certificate of Substantial Completion within two (2) working days following inspection. If all requirements have not been met, Architect will advise the Contractor(s) of unfilled requirements or construction that must be completed or corrected before the Certificate will be issued.
2. The Architect will repeat inspection when requested in writing by the Contractor and assured that the Work has been substantially completed and all items that were incomplete have been corrected.
3. Results of the completed inspection will form the basis of requirements for final acceptance.
4. Until the date of Substantial Completion has been established as identified in the Certificate of Substantial Completion, Contractor shall be responsible for operation, maintenance, and security of the Work regardless of whether Owner has occupied the Work. Contractor shall also be responsible for insurance and utilities as applicable in provisions elsewhere in the Contract Documents. All warranties period shall start no sooner than the date of Substantial Completion regardless of whether the Owner has occupied the work.

D. Procedure:

1. In the event that more than the two inspections by the Architect, described above are made necessary by the failure of the Contractor(s) to complete the work or to complete or correct items identified on the list of such items, a Change Order will be established for re inspection. The Contractor(s) shall reimburse the Owner for all costs incurred including the cost of the Architect's services made necessary thereby.
2. Upon completion of re inspection, the Architect will prepare a Certificate of Substantial Completion, or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for Substantial Completion.
3. If necessary, a Change Order will be established for re inspection will be repeated at the Contractor's expense and the amount deducted from his Application for Payment.

### **3.02 FINAL ACCEPTANCE**

- A. At the completion of the Project prior to receiving final payment, the Contractor shall furnish the Owner, through the Architect, properly signed and notarized waivers of lien from all subcontractors employed and material suppliers furnishing materials for the Project. Such waivers shall be submitted before final payment will be certified by the Architect to the Owner (AIA G706A).
- B. Procedures:
  - 1. Before requesting final inspection for final payment, submit and complete three copies of the following (list exceptions in the request):
    - a. Submit a copy of the Architect's list of non-conforming work (punch list) attached to the Certificate of Substantial Completion, stating that each item has been completed or otherwise resolved for acceptance.
    - b. Submit final Application for Payment.
    - c. Submit Consent Of Surety To Final Payment (AIA G707).
    - d. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
    - e. Certificate of Occupancy.
    - f. Any other items as required by the Architect and/or Owner.
- C. Inspection Procedures:
  - 1. On receipt of a request for final inspection, the Architect will review with Owner all documentation and other requirements prior to final inspection. If all requirements have been fulfilled, the Architect will inspect the work. If the Architect finds the items on the punch list have been corrected, the Architect will issue the final Certificate for payment within two (2) working days following inspection. If all requirements have not been met, Architect will advise the Contractor(s) of unfilled requirements or construction that must be completed or corrected before the Final Certificate for Payment will be issued.
  - 2. The Architect will repeat inspection when requested in writing by the Contractor and assured that the Work has been completed and all items that were incomplete have been corrected.
  - 3. In the event that more than the two inspections by the Architect, described above are made necessary by the failure of the Contractor(s) to complete the work or to complete or correct items identified on the list of such items, a Change Order will be established for re inspection. The Contractor(s) shall reimburse the Owner for all costs incurred including the cost of the Architect's services made necessary thereby.
  - 4. Upon completion of re inspection, the Architect will issue a Certificate for Payment, or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required.
  - 5. If necessary, a Change Order will be established for re inspection will be repeated at the Contractor's expense and the amount deducted from his Application For Payment.
  - 6. If necessary, a Change Order will be established for re inspection will be repeated at the Contractor's expense and the amount deducted from his Application For Payment.

### **3.03 PROJECT RECORD DOCUMENTS**

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
  - 1. Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. Change Orders and other modifications to the Contract.
  - 5. Reviewed shop drawings, product data, and samples.
  - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress. Provide access to record Documents for Architect review.

- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
  - 1. Manufacturer's name and product model and number.
  - 2. Product substitutions or alternates utilized.
  - 3. Changes made by Addenda and modifications.
- F. The Contractor(s) shall record on the Record Documents maintained at the site all changes and selections made during construction and shall locate by dimensions showing actual field measurements of all major items which will be concealed in the completed Work. These items shall include underground piping and conduit beneath slabs-on-grade (or basement slabs), underground site utilities such as pipe, conduit, storm drainage, sewer, gas, water, medical gases, oil, and telephone etc. and items above hard ceilings such as duct, pipe, etc. Elevations are to be established at fifty foot intervals and at all changes in direction using bench marks or finish floor elevations.
- G. Within thirty (30) days at the conclusion of the project, the Contractor(s) shall provide the Architect in digital format all close-out documents, operation and maintenance manuals, and warranties and bonds.

#### **3.04 OPERATION AND MAINTENANCE DATA**

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

#### **3.05 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES**

- A. For Each Product, Applied Material, and Finish:
  - 1. Product data, with catalog number, size, composition, and color and texture designations.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Additional information as specified in individual product specification sections.
- D. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

#### **3.06 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS**

- A. For Each Item of Equipment and Each System:
  - 1. Description of unit or system, and component parts.
  - 2. Identify function, normal operating characteristics, and limiting conditions.
  - 3. Include performance curves, with engineering data and tests.
  - 4. Complete nomenclature and model number of replaceable parts.
- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- C. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- D. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and

alignment, adjusting, balancing, and checking instructions.

- E. Provide servicing and lubrication schedule, and list of lubricants required.
- F. Include manufacturer's printed operation and maintenance instructions.
- G. Include sequence of operation by controls manufacturer.
- H. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- I. Provide control diagrams by controls manufacturer as installed.
- J. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- K. Include test and balancing reports.
- L. Additional Requirements: As specified in individual product specification sections.

### **3.07 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS**

- A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
- B. Where systems involve more than one specification section, provide separate tabbed divider for each system.
- C. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
- F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
- G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
- H. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.
- I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- J. Arrangement of Contents: Organize each volume in parts as follows:
  - 1. Project Directory.
  - 2. Table of Contents, of all volumes, and of this volume.
  - 3. Operation and Maintenance Data: Arranged by system, then by product category.
    - a. Source data.
    - b. Product data, shop drawings, and other submittals.
    - c. Operation and maintenance data.
    - d. Field quality control data.
    - e. Photocopies of warranties and bonds.
    - f. Wiring diagrams.
    - g. Valve tag chart.
    - h. Preventative maintenance schedule.

### **3.08 STATE HEALTH MANUAL FOR FINAL INSPECTION**

- A. The following shall be complied by the General Contractor and presented for review by the Architect at the time of the final inspection. Three binders will be prepared. One for the Owner, one for the Architect and one to be presented to the State Health Inspector at the time of their inspection.

1. Information to include:
  - a. Copy of Building Final "Use and Occupancy" from local codes
  - b. Date sprinkler system was checked, above grade and below grade certification.
  - c. Date smoke detectors were tested in place by Sub-contractor
  - d. Duct smoke detector installation instructions
  - e. Flame spread ratings for paint and vinyl wall coverings
  - f. Flame retardant certification for lumber
  - g. Flame spread ratings for vinyl flooring, acoustical tile and building insulation
  - h. Flame resistant certification for draperies and cubicle curtains
  - i. Critical radiant flux ratings for carpet
  - j. State elevator certificate ( If applicable )
  - k. Spray-on fireproofing certification for steel ( If applicable )
  - l. Lead-lined flame certificate
  - m. Medical gas certification
  - n. Sprinkler system hydraulic label
  - o. Nurse Call and Code Blue certification
  - p. HVAC test and balance report
  - q. Lighting protection with application for certification ( If applicable )
  - r. Emergency Generator test report with load bank test.
  - s. Smoke detector activation/sensitivity test (include listed range)
  - t. List of certification of the isolated power systems (ISO)
  - u. Main Building ground certification
  - v. Equipotential grounding certification
  - w. Fire Alarm certification
  - x. Boiler inspection report
  - y. Water Purification certificate

### **3.09 WARRANTIES AND BONDS**

- A. Verify that documents are in proper form, contain full information, and are notarized.
- B. Co-execute submittals when required.
- C. Retain warranties and bonds until time specified for submittal.
- D. Include originals of each in the operation and maintenance manuals, indexed on the Table of Contents.
- E. The Contractor shall re-type and execute on the Contractor's letter head the Project Warranty for General Construction and any special warranties required by various specification sections.
- F. Refer to Section 017810 Contractor's General Warranty.
- G. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.

**END OF SECTION**