

**Part 1            General**

**1.1                SUBMISSION**

- .1    Prepare instructions and data using personnel experienced in maintenance and operation of described products.
- .2    Copy will be returned after final inspection, with Contract Administrator's comments.
- .3    Revise content of documents as required prior to final submittal.
- .4    Two weeks prior to Substantial Performance of the Work, submit to the Contract Administrator four final copies of operating and maintenance manuals in English.
- .5    Ensure spare parts, maintenance materials and special tools provided are new, undamaged or defective, and of same quality and manufacture as products provided in Work.
- .6    If requested, furnish evidence as to type, source and quality of products provided.
- .7    Defective products will be rejected, regardless of previous inspections. Replace products at own expense.
- .8    Pay costs of transportation.

**1.2                FORMAT**

- .1    Organize data in the form of an instructional manual.
- .2    Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.
- .3    When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine.
- .4    Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of Project and identify subject matter of contents.
- .5    Arrange content by systems under Section numbers and sequence of Table of Contents.
- .6    Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- .7    Text: Manufacturer's printed data, or typewritten data.
- .8    Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- .9    Provide 1:1 scaled CAD files in .dwg format on CD of as-builts (supplied by contractor).3 copies

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### **1.3 CONTENTS - EACH VOLUME**

- .1 Table of Contents: provide title of Project;
  - .1 Date of submission; names,
  - .2 Addresses, and telephone numbers of Contract Administrator and Contractor with name of responsible parties;
  - .3 Schedule of products and systems, indexed to content of volume.
- .2 For each product or system:
  - .1 List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- .3 Product Data: mark each sheet to clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- .4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
- .5 Typewritten Text: as required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00 - Quality Control.

### **1.4 AS-BUILTS AND SAMPLES**

- .1 In addition to requirements in General Conditions, maintain at the Site for Contract Administrator one record copy of:
  - .1 Contract Drawings.
  - .2 Specifications.
  - .3 Addenda.
  - .4 Change Orders and other modifications to the Contract.
  - .5 Reviewed shop drawings, product data, and samples.
  - .6 Field test records.
  - .7 Inspection certificates.
  - .8 Manufacturer's certificates.
- .2 Store record documents and samples in field office apart from documents used for Construction. Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Contract Administrator.

### **1.5 RECORDING ACTUAL SITE CONDITIONS**

- .1 Record information on set of black line opaque drawings, and in copy of Project Manual, provided by Contract Administrator.

- .2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.
- .3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- .4 Contract Drawings and shop drawings: legibly mark each item to record actual Construction, including:
  - .1 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of Construction.
  - .2 Field changes of dimension and detail.
  - .3 Changes made by change orders.
  - .4 Details not on original Contract Drawings.
  - .5 References to related shop drawings and modifications.
  - .6 CAD drawings of as-builts of revised Contract Documents files in .dwg format on CD
- .5 Specifications: legibly mark each item to record actual construction, including:
  - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
  - .2 Changes made by Addenda and change orders.
- .6 Other Documents: maintain manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.

## **1.6 EQUIPMENT AND SYSTEMS**

- .1 Each Item of Equipment and Each System: include description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions.
- .2 Include manufacturer's printed operation and maintenance instructions.
- .3 Additional requirements: As specified in individual specification sections.

## **1.7 MATERIALS AND FINISHES**

- .1 Building Products, Applied Materials, and Finishes: include product data, with catalogue number, size, composition, and colour and texture designations. Provide information for re-ordering custom manufactured products.
- .2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .3 Moisture-protection and weather-exposed products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .4 Additional Requirements: as specified in individual specifications sections.

## **1.8 WARRANTIES AND BONDS**

- .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.

- .2 List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
- .3 Obtain warranties and bonds, executed in duplicate by Subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item of Work.
- .4 Except for items put into use with The City's permission, leave date of beginning of time of warranty until the Date of Substantial Performance is determined.
- .5 Verify that documents are in proper form, contain full information, and are notarized.
- .6 Co-execute submittals when required.
- .7 Retain warranties and bonds until time specified for submittal.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**