

SUBMITTAL PROCEDURES

1. GENERAL

1.1 Shop Drawings and Product Data

- .1 Arrange for the preparation of clearly identified Shop Drawings as specified or as the Contract Administrator may reasonably request. Shop Drawings are to clearly indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of the Work. Where articles or equipment attach or connect to other articles or equipment, clearly indicate that all such attachments and connections have been properly coordinated, regardless of the trade under which the adjacent articles or equipment will be supplied and installed. Shop Drawings are to indicate their relationship to design drawings and specifications. Notify the Contract Administrator in writing of any deviations in Shop Drawings from the requirements of the Contract.
- .2 Examine all Shop Drawings prior to submission to the Contract Administrator to ensure that all necessary requirements have been determined and verified and that each Shop Drawing has been checked and coordinated with the requirements of the Work and the Contract. Examination of each Shop Drawing shall be indicated by stamp, date and signature of a responsible person of the Subcontractor for supplied items and of the Contractor for fabricated items. Shop Drawings not stamped, signed and dated will be returned without being reviewed and stamped "Re-submit".
- .3 Submit Shop Drawings with reasonable promptness and in an orderly sequence so as to cause no delay in the Work. Failure to submit Shop Drawings in ample time is not to be considered sufficient reason for a change to the work schedule and no claim for extension of time by reason of such default will be allowed. Jointly prepare a schedule fixing the dates for submission and return of Shop Drawings.
- .4 The Contract Administrator will review and return Shop Drawings in accordance with the schedule agreed upon or otherwise with reasonable promptness so as to cause no delay in the Work.
- .5 Submit one (1) copy of white prints and one (1) copy of all fixture cut sheets and brochures. E-mailed copies are acceptable only with permission of Contract Administrator.
- .6 Shop Drawing review by the Contract Administrator is solely to ascertain conformance with the general design concept. Responsibility for approval of detail design inherent in Shop Drawings rests with the Contractor and review by the Contract Administrator shall not imply such approval.
- .7 Review by the Contract Administrator shall not relieve the Contractor of his responsibility for errors or omissions in Shop Drawings or for proper completion of the Work in accordance with the Contract.
- .8 Responsibility for verification and correlation of field dimensions, fabrication processes, techniques of construction, installation and coordination of all parts of the Work rests with the Contractor.

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- .9 Shop Drawings will be returned to the Contractor with one of the following notations:
 - .1 When stamped "REVIEWED – NO COMMENT", distribute additional copies as required for execution of the Work.
 - .2 When stamped "REVIEWED – AS NOTED", ensure that all copies for use are modified and distributed, same as specified for "REVIEWED – NO COMMENT".
 - .3 When stamped "REVIEWED – REVISE AND RESUBMIT", make the necessary revisions, as indicated, consistent with the Contract and submit again for review.
 - .4 Only Shop Drawings bearing "REVIEWED – NO COMMENT", or "REVIEWED – AS NOTED" shall be used on the Work unless otherwise authorized by the Contract Administrator.
- .10 After submittals are stamped "REVIEWED – NO COMMENT", or "REVIEWED – AS NOTED", no further revisions are permitted unless re-submitted to the Contract Administrator for further review.
- .11 Any adjustments made on Shop Drawings by the Contract Administrator are not intended to change the Contract Price. If it is deemed that such adjustments affect the Contract Price, clearly state as such in writing prior to proceeding with fabrication and installation of Work.
- .12 Make changes in Shop Drawings which the Contract Administrator may require consistent with the Contract. When re-submitting, notify the Contract Administrator in writing of any revisions other than those requested by the Contract Administrator.
- .13 Shop Drawings indicating design requirements not included in the Contract require the seal of a qualified Professional Engineer, registered in the province of the place of the Project. Consulting calculations shall be submitted for review, if requested, and sealed by a qualified Professional Engineer.

1.2 Operating and Maintenance Manuals

- .1 Not less than two (2) weeks prior to Substantial Performance, submit to the Contract Administrator five (5) copies of operating and maintenance manuals which shall contain information required by the Specifications as well as operational information on equipment, cleaning and lubrication schedules, filters, overhaul and adjustment schedules. All instructions in these manuals shall be in simple language to guide the City in the proper operation and maintenance of his installation.

- .2 Bind contents in a three-ring, hard covered, plastic jacketed binder.

- .3 Index binder according to the following system:

Tab-1.0 Mechanical Systems:

Title page with clear plastic protection cover.

Tab-1.1 List of Mechanical Drawings:

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Tab-1.2 System Descriptions:

Provide complete description of the operating sequence for all systems. Include detailed system description, with individual components described, explanation of how components interface with others and to the complete system, location of thermostats, controllers or operating variances, and controller operating setpoints.

Tab-1.3 Operating Division:

Provide complete and detailed operation of major components and systems. Provide information on location of components, how to energise switches and controls, how components interface with other components, operation of controls including operational sequence, operational changes for summer of winter operation, how to accomplish the changeover, complete trouble shooting sequence, emergency operating sequences in event of major component failure, and safeguards to indicate if equipment goes off-line.

Tab-1.4 Maintenance and Lubrication Division:

Provide general maintenance and lubrication schedule for major components to include daily, weekly, monthly, semi-annual and yearly checks and tasks. Explain how to execute maintenance tasks required for typical equipment such as bearings, drives, motors, and filters. Compile this information for equipment and separate from Shop Drawings.

Tab-1.5 List of Equipment Suppliers and Contractors:

Provide list of equipment suppliers and contractors, including address and telephone number. Outline procedures for purchasing parts and equipment.

Tab-Certification (2.0, 2.1, ...):

Include copy of test data on degreasing and flushing of heating system, analysis of system water taken at time system was put into operation, hydrostatic or air tests performed on piping systems, equipment alignment certificates, copy of balancing data for air and water systems, copy of valve tag identification and pipe colour code, inspection approval certificates for plumbing system, heating and ventilation systems.

Tab-Shop Drawings and Maintenance Bulletins (3.0, 3.1, ...):

Provide materials received in compliance with clause "Shop Drawings".

- .4 The divider tabs shall be laminated Mylar plastic and coloured according to Section. The colouring is as follows: Mechanical Systems - 1.0 - 1.5 Orange; Certification - 2.0 - 2.4 Green; Shop Drawings & Maintenance - 3.0 - 3.17 Yellow. Plastic tabs with typewritten card insertions will not be accepted.

1.3 Record Drawings

- .1 After award of Contract, the Contract Administrator will provide a complete set of Drawings for the purpose of maintaining Project Record Drawings.

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- .2 Accurately record significant deviations from the Contract caused by Site conditions and changes ordered by the Contract Administrator. Update daily.
- .3 Record locations of concealed elements of mechanical and electrical services.
- .4 Identify Drawings as "Project Record Copy". Maintain in good condition and make available for inspection on-site by the Contract Administrator at all times.
- .5 On completion of the Work and prior to final inspection, submit Record Drawings to the Contract Administrator for review.

1.4 Photographs and Publicity

- .1 No photographs of the Site or of any portion of the Work will be permitted without prior approval of the Contract Administrator.
- .2 No press or publicity releases will be permitted without prior approval of the Contract Administrator.

END OF SECTION

REFERENCES

1. GENERAL

1.1 Abbreviations and Acronyms

- .1 Within the text of the Specifications, reference may be made to the following codes, standards and organizations:

AABC	Associated Air Balance Council
ABMA	American Bearing Manufacturers Association
ACI	American Concrete Institute
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AHRI	Air-Conditioning, Heating and Refrigeration Institute
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AMCA	Air Movement and Control Association International, Inc.
ANSI	American National Standards Institute
APHA	American Public Health Association
API	American Petroleum Institute
ASCE	American Society of Civil Engineers
ASCII	American Standard Code for Information Interchange
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASPE	American Society of Plumbing Engineers
ASTM	ASTM International (formerly American Society for Testing and Materials)
AWMAC	Architectural Woodwork Manufacturers Association of Canada
AWPA	American Wood Protection Association
AWS	American Welding Society
AWWA	American Water Works Association
CBAC	Clay Brick Association of Canada
CBM	Certified Ballast Manufacturers
CCA	Canadian Construction Association
CCMC	Canadian Construction Materials Centre
CEC	Canadian Electrical Code

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CEMA	Canadian Electrical Manufacturers Association
CGA	Canadian Gas Association
CGSB	Canadian General Standards Board
CISC	Canadian Institute of Steel Construction
CISPI	Cast Iron Soil Pipe Institute
CITC	Canadian Institute of Timber Construction
CIU	Canadian Institute of Underwriters
CLA	Canadian Lumberman's Association
CMHC	Canada Mortgage and Housing Corporation
CPCA	Canadian Paint and Coatings Association
CPCI	Canadian Precast/Prestressed Concrete Institute
CRCA	Canadian Roofing Contractors' Association
CRSI	Concrete Reinforcing Steel Institute
CSA	Canadian Standards Association
CSPI	Corrugated Steel Pipe Institute
CSSBI	Canadian Sheet Steel Building Institute
CWB	Canadian Welding Bureau
CWC	Canadian Wood Council
DIN	Deutsche Industrie Norm
EEI	Edison Electric Institute
EEMAC	Electrical Equipment Manufacturers Association of Canada
EFC	Electro-Federation Canada
EIA	Electronic Industries Alliance
EJMA	Expansion Joint Manufacturers Association
FCC	Federal Communications Commission (USA)
FM	Factory Mutual Engineering Corporation
IAO	Insurers' Advisory Organization
IAPMO	International Association of Plumbing and Mechanical Officials
IBC	International Building Code (ICC)
IBRM	Institute of Boiler and Radiator Manufacturers
ICC	International Code Council
ICEA	Insulated Cable Engineers Association
IEC	International Electrotechnical Commission
IEE	Institution of Electrical Engineers (UK)

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IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
IGMAC	Insulating Glass Manufacturers Association of Canada
ISA	Instrumentation, Systems, and Automation Society
ISO	International Organization for Standardization
LTIC	Laminated Timber Institute of Canada
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry
NAAMM	National Association of Architectural Metal Manufacturers
NABA	National Air Barrier Association
NACE	NACE International (formerly National Association of Corrosion Engineers)
NBC	National Building Code of Canada
NEBB	National Environmental Balancing Bureau (USA)
NEC	National Electrical Code (USA)
NECA	National Energy Conservation Association
NEMA	National Electrical Manufacturers Association (USA)
NESC	National Electric Safety Code (IEEE)
NFPA	National Fire Protection Association (USA)
NLGA	National Lumber Grades Authority
NRC	National Research Council Canada
OSHA	Occupational Safety & Health Administration (USA)
PCA	Portland Cement Association
PCI	Precast Prestressed Concrete Institute
RSIC	Reinforcing Steel Institute of Canada
SAE	Society of Automotive Engineers
SBI	Steel Boilers Institute
SI	International System of Units
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SSPC	Steel Structures Painting Council
TTMAC	Terrazzo Tile and Marble Association of Canada
UL	Underwriters Laboratories Inc.
ULC	Underwriters' Laboratories of Canada
WCB	Workers Compensation Board (Manitoba)

REFERENCES

- .2 Where specified standards are not dated, conform to latest issue of specified standards, including amendments and revisions, in effect three (3) Business Days before the Submission Deadline.

END OF SECTION