PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Contract Method.

.2 Owner's Products.

.3 Existing Services.

.4 Mechanical and Electrical Work

1.2 RELATED SECTION

.1 Section 01720: Field Engineering

1.3 CONTRACT DOCUMENTS

.1 Construct the Work under one Contract, bound by the Agreement between Owner and Contractor.

1.4 GENERAL CONDITIONS

.1 The General Conditions of the Contract form an integral part of the Specification.

1.5 DIVISION 1

.1 The provisions of all Sections of Division 1 shall apply to each Section of this Specification.

1.6 SALVAGE

.1 Items listed on the Salvage List are to remain the property of the Owner.

1.7 SUPPLEMENTARY DEFINITIONS

.1 In the Specification, references such as "Shown on Drawings", "Specified", "Scheduled", "Called for" and the like shall be deemed to include work required by any of the Contract Documents.

.2 In the Specifications, the expression "Trade(s)" is synonymous with "Sub-Contractor's" if the context permits. The expression "All Trades" shall be deemed to include the Contractor.

.3 In the Specifications, the expression "Project Manager" shall mean the Owner's Representative who may be a Project Engineer or Technologist

1.8 OWNER'S PRODUCTS

.1 Use only Owner's products for all petroleum related products used on the Project.

.2 No competitor's containers shall be allowed on site.

1.9 EXAMINATION

.1 The Owner will not entertain any claim for extra work and/or expense incurred by the Contractor or his Sub-Contractors arising from failure to examine existing surfaces and previous work done either under this Contract or other separate contracts and conditions upon which any work depends for its satisfactory execution. All unsatisfactory conditions, defects and deficiencies shall be reported, in writing, to the Project Manager, and shall have been corrected before proceeding with the work.

.2 Commencement of Works as good trade practice. The Project Manager's approval is also required.shall be deemed as acceptance of surfaces, previous work and conditions.

1.10 TEMPORARY WORK

.1 The expression "Provide" shall be deemed to include the provision, installation and finishing, maintenance, servicing and removal of the work described. All work damaged by temporary installation

1.11 SATISFACTION/APPROVAL

.1 The expression "to the satisfaction or approval of the Project Manager" shall be implied throughout the Specification in regard to all materials and workmanship.

.2 "Submit for approval" means that the item in question is to be submitted to the Project Manager for approval and that a written acceptance of it and authorization for its use in the work shall be obtained before it is incorporated in the work. Trades shall submit items for approval to the Project Manager via the Contractor.

.3 An "approved method" means that which has the Manufacturer's recommendation or which is generally accepted as good trade practice. The Project Manager's approval is also required.

1.12 EXISTING SERVICES

.1 Make all necessary enquiries to determine the location of any existing services such as electric, telephone, water, gas, sewer, etc. This applies to interior as well as exterior work.

.2 Ascertain the location of any services buried in floor slabs prior to cutting and obtain Project Manager's approval before work commences.

.3 The Owner will not be liable for any loss, damage, delay or claim whatsoever resulting or arising from the absence in whole or in part of services.

.4 Without limiting the generality of the foregoing, this includes roads, water, storm and sanitary services, electricity and condition of drainage from or to the site.

1.13 EMERGENCIES

.1 Notify the Project Manager immediately after notifying the proper authorities should an emergency arise on the site, including personal injuries, accidents, near misses and safety concerns. Provide complete details on extent of emergency, cause and the action being taken. This notification shall be by telephone or fax immediately after the occurrence.

1.14 FIELD MARKING

.1 Do not use wick pens to mark face of products to be installed in the work. Such pen marks will eventually show through applied paint or vinyl coatings. The Contractor will be held responsible and required to remedy such defects, classified as "latent defects" regardless of when they occur.

1.15 MECHANICAL AND ELECTRICAL WORK

.1 Install and arrange ducts, piping, tubing, equipment and fixtures in such a way as to conserve headroom and spaces as much as possible, to provide minimum interference and to be neat, orderly and tidy. Unless otherwise noted, run pipes, ducts, tubing and conduit, vertical, horizontal and square with building grid. Conceal pipes, ducts, tubing and conduit above ceilings, store rooms and unfinished spaces, unless indicated or specified otherwise. Maximum ceiling heights must be maintained. Dimensions on drawings constitute minimum standards.

.2 The general intent is that the Contractor shall include for all cutting and patching indicated on mechanical and electrical drawings and as required to meet the requirements and Specifications of Division 15 and 16 unless requirements are not given with timely notice or areas are substantially finished, in which case the Trades shall assume costs.

1.16 MATERIALS

.1 All fixtures, materials and the like shall be new, without defects and shall be as specified on Drawings, or approved alternate.

END

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Coordination Work with all Trades.

.2 Scheduled Project Meetings.

1.2 RELATED SECTIONS

.1 Section 01320 - Construction Progress Documentation.

.2 Section 01350 - Submittals.

1.3 COORDINATION

.1 Coordination of all work between Trades as required to facilitate mutual progress and to prevent conflict between parts of the work.

.2 Ensure that each Trade makes known to the Contractor and other Trades any conditions required to execute its work, its sequence of work requiring cooperative location and installation by other Trades.

.3 Pay cost of extra work caused by and make up time lost as a result of failure to provide on time cooperation, information or items to be fixed or built in.

.4 Cooperate with all inspection companies representatives and all site servicing crews, e.g. natural gas supply company, in the performance of their duties.

1.4 PROJECT MEETINGS

.1 Schedule and administer regular project meetings throughout progress of Work as determined by Project Manager.

.2 Prepare agenda for meetings.

.3 Distribute written notice of each meeting stating time and place to Project Manager, Subcontractors and/or other persons whose presence is required.

.4 Provide physical space and make arrangements for meetings.

.5 Preside at meetings.

.6 Record minutes. List persons attending. Include all proceedings and decisions taken and instructions issued or required. Identify action by parties.

.7 Reproduce and distribute typed copies of minutes within seven days after each meeting and transmit to meeting participants and affected parties not in attendance. Project Manager shall receive two copies.

1.5 PRE-CONSTRUCTION/PRE-AWARD MEETING

.1 The Contractor is responsible for ensuring that his Project Manager and Site Supervisor attend the Pre-Construction/Pre-Award Meeting as outlined in the Agenda.

.2 Agenda to include following:

.1 Appointment of official representative of Owner and Contractor who will be responsible as a team for safe construction execution.

.2 Review the Work scope.

.3 Prepare the detailed construction schedule by Contractor on Owner-specified project scheduling software. Contractor to review schedule with Owner's representative.

.4 Review Owner safety policies/issues/expectations.

.5 Review the role of each team participant.

.6 Review all safety, health, security, environmental issues and concerns and preventative, protective means of minimizing risk or hazard.

.7 Review provincial acts and regulations.

1.6 ON-SITE DOCUMENTS

.1 Maintain at job site, a minimum of one copy each of the following:

.1 Contract drawings.

.2 Specifications.

.3 Addenda.

.4 Reviewed shop drawings.

.5 Change orders.

.6 Other modifications to Contract.

.7 Field test reports.

.8 Copy of approved Work schedule.

.9 Manufacturers' installation and application instructions.

1.7 PROGRESS REPORTS

.1 Weekly Construction Report: The Contractor is responsible for submitting, on a weekly basis to the Project Manager, the Weekly Construction Report on the Weekly Construction Report Form.

.2 Weekly Safety Report: The Contractor is responsible for submitting, on a weekly basis to the Project Manager, the Weekly Safety Report on The Weekly Safety Report Form. The Tool Box Meeting Reporting Sheet is to be complete and attached to the Weekly Safety Report when Tool Box Meetings are held. See Section 01705 for meeting requirements.

.3 Project Schedule: Contractor to update Project Schedule on a weekly basis and review with Project Manager.

END

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Schedule, form, content.

.2 Scheduled revisions.

1.2 RELATED SECTIONS

.1 Section 01310 - Project Management and Coordination.

.2 Section 01340 - Shop Drawings, Product Data, Samples.

.3 Section 01350 - Submittals.

1.3 SCHEDULES REQUIRED

.1 The detailed Construction Schedule shall be prepared as a joint effort between the Contractor and the Owner at the Pre-Construction/Pre-Award Meeting.

.2 Submit schedules as follows:

.1 Construction Progress Schedule showing:

.1 Commencement and Completion dates of Contract.

.2 Commencement and Completion dates of stipulated stages, if any.

.3 Commencement and Completion dates of Trades.

.4 Any other information relating to the orderly progress of Contract, considered by Project Manager or Owner to be pertinent.

.2 Submittal Schedule for Shop Drawings and Product Data.

.3 Submittal Schedule for Samples.

.4 Submittal Schedule for timeliness of Owner furnished Products.

.5 Product Delivery Schedule.

1.4 FORMAT

.1 Prepare format of Construction schedule to allow plotting of actual progress against scheduled progress.

.2 Allow sufficient space for modifications and revisions to the schedule as Work progresses.

.3 Format shall be approved by the Project Manager.

1.5 SUBMISSION

.1 Distribute copies of revised schedule to:

.1 Job site office.

.2 Subcontractors.

.3 Other concerned parties.

.2 Copy of Schedule shall be displayed in Site Office during complete construction period and actual progress plotted weekly by the Contractor.

.3 Instruct recipients to report to Contractor within 7 days, any problems anticipated by timetable shown in schedule.

.4 Arrange participation on site and off site, with Subcontractors and Suppliers as and when necessary for the purpose of updating schedule and monitoring progress.

.5 Reviews of progress by inspections and meetings will be conducted at least once a week or as directed.

END

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Shop drawings, product data and samples.

1.2 RELATED SECTIONS

.1 Section 01320 - Construction Progress Documentation.

.2 Section 01350 - Submittals.

.3 Section 01450 - Quality Control.

.4 Section 01780 - Operations and Maintenance Data.

1.3 ADMINISTRATIVE

.1 As soon as possible after award of Contract but prior to submission of the first application for payment, prepare and submit to Project Manager for comment, a schedule establishing dates for the submission and return of Shop Drawings.

.2 Submit to Project Manager Shop Drawings, Product Data and Samples, listed for review and specified in separate Sections, with reasonable promptness and in orderly sequence so as to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.

.3 Work affected by submittal shall not proceed until review is complete.

.4 Shop Drawings or diagrams which do not bear the Project Manager's signature, shall not be used for construction.

.5 Present shop drawings, product data, samples and mock-ups in SI Metric units.

.6 Where items or information is not produced in SI Metric units converted values are acceptable.

.7 Submission and subsequent review of Shop Drawings constitute a service and does not entitle the supplier or subcontractor to the right to remuneration until the materials are supplied and installed on the Site in accordance with the Contract.

.8 Keep one reviewed copy of each submission on site.

1.4 SHOP DRAWINGS

.1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor, Subcontractor, Supplier or Distributor to illustrate details of a portion of Work.

.2 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

.3 Allow 15 days for Project Manager's review of each submission exclusive of inter-office transmittal and mail periods.

.4 Accompany submissions with transmittal letter containing:

.1 Date.

.2 Project title and number.

.3 Contractor's name and address.

.4 Name and address of:

.1 Subcontractor.

.2 Supplier.

.3 Manufacturer.

.5 Details of appropriate sections of the Specification or drawing number as applicable.

.5 Submit Shop Drawings to Authorities having jurisdiction and obtain approval.

.6 On Shop Drawings for fire rated assemblies show required fire rating and ULC design numbers.

.7 Submit Shop Drawings in the form requested on a minimum of six white prints. Provide two additional prints for structural, mechanical and electrical items. After review, the Project Manager will retain one white print and return the others to the Contractor. On completion of the revisions, one complete set of new white prints of Shop Drawings used for construction shall be supplied to the Project Manager, unless otherwise specified. No corrections or other changes shall be made on the original prints, but on the original transparency for reprinting and issue.

.8 Any equipment installed without approved Shop Drawings where requested shall be removed at Contractor's expense if required by Project Manager.

.9 The review of shop drawings by the Project Manager is for the sole purpose of ascertaining conformance with general concept. This review shall not mean that the Project Manager approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting all requirements of construction and Contract Documents. Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of all sub-trades.

1.5 PRODUCT DATA

.1 Certain Specification Sections specify that manufacturer's standard schematic drawings, catalogue sheets, diagrams, schedules, performance charts, illustrations and other standard descriptive data will be accepted in lieu of Shop Drawings.

.2 The above will be accepted if they conform to the following:

.1 Delete information which is not applicable to project.

.2 Supplement standard information to provide additional information applicable to project.

.3 Show dimensions and clearances required.

.4 Show performance characteristics and capacities.

.5 Show wiring diagrams and controls.

.6 Add to standard sheet the Project identification data.

1.6 SAMPLES

.1 Submit for review samples as requested in respective specification Sections. Label samples with origin and intended use.

.2 Where colour, pattern or texture is critical, submit full range of samples.

.3 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.7 CONTRACTOR'S RESPONSIBILITY

.1 Check and certify as correct Shop Drawings, Product Data and Samples prior to submission.

.2 Verify:

.1 Field measurements.

.2 Field construction criteria.

.3 Catalogue numbers and similar data

.3 Coordinate each submittal with requirements of work and Contract Documents.

.4 Notify Project Manager, in writing at time of submission of any deviations in submittal from requirements of Contract Documents.

.5 Stamp, initial or sign each Drawing, certifying approval of submission, verification of field dimensions and measurements and compliance with Contract Documents.

.6 After Project Manager's review, distribute copies as follows.

.1 Job site file (2 copies).

.2 Record documents file.

.3 Subcontractors

.4 Suppliers.

.5 Fabricator.

.6 Authorities having jurisdiction, where required by Codes and/or By-laws, i.e. structural steel and sprinklers.

.7 Data book where applicable.

.7 Distribute samples as directed by the Project Manager.

.8 Ensure that all samples are approved by authorities having jurisdiction, supplier for correct application in Project, and other parties such as Owner, in time to permit approval prior to ordering of quantity delivery to site.

END

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Documents, Certificates and Transcripts.

1.2 RELATED SECTIONS

.1 Section 01310 - Project Management and Coordination.

.2 Section 01320 - Construction Progress Documentation.

.3 Section 01340 - Shop Drawings, Product Data, Samples.

.4 Section 01450 - Quality Control.

.5 Section 01705 - Health and Safety.

.6 Section 01780 - Closeout Submittals.

1.3 BEFORE COMMENCEMENT OF WORK

.1 Obtain the documents listed under this heading and supply to Project Manager within the time stipulated in the Specification, or if not so stipulated, before issue of the first Certificate.

.1 Insurance Policies required under General Conditions of Contract Article Insurance Requirements.

.2 Certificates of good standing from the Worker's Compensation Board for the Contractor.

.3 Shop Drawing Schedule.

.4 Permits required for work of Division 15 - Mechanical Trades and Division 16 - Electrical Trades.

.5 Permits for temporary structures, hoists, etc.

.6 Contractor signed Clearance Certificate as acceptance of Owner's Work Control Procedures - see Section 01705.

.7 Construction Schedule.

1.4 DOCUMENTS AND ACTION REQUIRED DURING PROGRESS OF CONTRACT

.1 Perform the action and/or obtain the documents listed under the heading and supply to the Project Manager, within the time stipulated in the Specification or, if not so stipulated, as soon as possible following Project Manager's request.

.1 Progress Payment Certificate accompanied by Progress Invoice.

.2 Weekly Reports - see Section 01310.

.3 Documents specified under Section 01340 and Section 01450.

.4 Any permits required from Authorities having jurisdiction enabling Owner to occupy the work (or part thereof) prior to substantial performance of the Contract.

.5 Record Drawings:

.1 Project Manager will provide two sets of white prints for record drawing purposes. Obtain "as-built"drawings from Trades and consolidate in a manner to the satisfaction of the Project Manager.

.2 Maintain project "as-built" record drawings and record accurately significant deviations from Contract Documents caused by site conditions and changes ordered.

.3 Mark "as-built" changes in red coloured ink.

.4 Record following information:

.1 Depth of various elements of foundation in relation to finished floor level.

.2 Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvement, including but not limited to: - exact location of connections from off-site services - exact location of water and sanitary sewer tie-ins - exact location of natural gas line on site at property line - exact location of product piping - exact location of tank top elevation of each storage tank - exact location and elevation of each yard conduit e.g. conduit to yard lights, pumps, canopy and intercom.

.3 Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure.

.4 Field changes of dimension and detail.

.5 Changes made by Change Order or Supplementary Instructions.

.5 At completion of project and prior to final inspection, neatly transfer "as-built" notations to second set and submit both sets to Project Manager or duly authorized Engineering Consultant.

.6 Clearly mark each of the Project record Drawings, "Project Record Copy".

.7 Final completion of Project Record Drawings shall be a condition precedent to the issuance of Project Manager's final payment certificate.

1.5 DOCUMENTS AND ACTION REQUIRED AT COMPLETION

.1 Perform the action and/or obtain the documents listed under this heading during the Lien Act period following the issue of the Notice of Completion and Certificate of Acceptance. Delivery of these documents is a condition precedent to the issue of a Certificate for Payment of Holdback Monies, Article 6, of the General Conditions of the Contract.

.1 Certificate of Good Standing from the Worker's Compensation Board for the Contractor and all Subcontractors.

.2 Operations Data and Maintenance Manual as called for in Section 01780.

.3 Record Drawings as specified in this Section.

.4 Valve Tags and Directory.

.5 Pressure Vessels Inspection Certificates.

.6 Operating and Maintenance Instructions and Brochures:

.1 Mechanical.

.2 Electrical.

.7 Balancing of Ventilation System - Report.

.8 Inspection Certificates required by Provincial, Municipal and other Authorities having jurisdiction.

.9 Provide Owner with extra materials for future maintenance use, as specified in Trade Sections of the Specification.

END

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 References and Codes.

1.2 REFERENCES AND CODES

.1 Perform Work in accordance with National Building Code of Canada (NBC) including all amendments up to tender closing date and other codes of provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.

.2 Meet or exceed requirements of:

.1 Contract documents.

.2 Specified standards, codes and referenced documents.

1.3 FIRE SAFETY FEATURES

.1 The Contractor shall ensure that all Fire Safety Features called for in the Contract Documents are supplied and installed to meet Fire Safety Standards established by the Authorities having jurisdiction.

1.4 BUILDING SMOKING ENVIRONMENT

.1 Comply with smoking restrictions.

END

PART 1 - GENERAL

1.1 RELATED SECTIONS

.1 Section 01610 - References.

1.2 ASSOCIATIONS

.1 AASHTO - American Association of State Highway and Transportation Officials, 444 N Capitol Street N.W., Suite 249, Washington, D.C., U.S.A. 20001 URL http://www.aashto.org

.2 ACEC Association of Consulting Engineers of Canada, 130 Albert Street, Ottawa, ON. K1P 5G4 URL http://www.acec.ca

.3 ANSI - American National Standards Institute, 11 West 42nd Street, New York, New York, U.S.A. 10036 URL http://www.ansi.org

.4 ASHRAE -American Society of Heating, Refrigeration and Air-Conditioning Engineers, 1791 Tullie Circle NE, Atlanta, Georgia, U.S.A. 30329 URL http://www.ashrae.org

.5 ASTM - American Society for Testing and Materials, 100 Barr Harbor Drive West, Conshohocken, Pennsylvania 19428-2959 URL http://www.astm.org

.6 A WMAC - Architectural Woodwork Manufacturers Association of Canada, 516 4 Street West, High River, Alberta T1V 1B6 URL http://www.awmac.com

.7 AWPA -American Wire Producer's Association, 6232 Roudsby, Alexandria, VA U.S.A. 22315-5285 URL http://www.awpa.org

.8 CCA Canadian Construction Association,75 Albert St., Suite 400 Ottawa, Ontario, K1P 5E7 URL http://www.cca-acc.com

.9 CCDC Canadian Construction Documents Committee, Refer to ACEC, CCA, CSC or RAIC

.10 CITC Canadian Institute of Timber Construction, 200 Cooper Street, Ottawa, Ontario K2P 0G1

.11 CGA - Canadian Gas Association, 20 Eglinton Avenue West, Suite 1305, Toronto, Ontario M4R 1K8 URL http://www.cga.ca

.12 CGSB - Canadian General Standards Board, Place du Portage, Phase III, 6B1, 11 Laurier Street, Hull, Quebec K1A 1G6 URL http://w3.pwgsc.gc.ca/cgsb

.13 CISC - Canadian Institute of Steel Construction, 201 Consumers Road, Suite 300, Willowdale, Ontario M2J 4G8 URL http://www.buildingweb.com/CISC

.14 CLA -Canadian Lumbermen's Association, 27 Goulburn Avenue, Ottawa, Ontario, K1N 8C7 URL http://www.cla.ca.ca

.15 CNLA -Canadian Nursery Landscape Association, RR #4, Stn. Main, 7856 Fifth Street, Milton, Ontario. L9T 2X8 URL http://www.canadanursery.com

.16 CRCA - Canadian Roofing Contractors Association, 155 Queen Street, Suite 130C, Ottawa, Ontario K1P 6L1 URL http://www.roofingcanada.com

.17 CSA - Canadian Standards Association International, 178 Rexdale Blvd., Toronto, Ontario M9W 1R3 URL http://www.csa-international.org

.18 CSC - Construction Specifications Canada, 100 Lombard Street, Suite 200, Toronto, Ontario M5C 1M3 URL http://www.csc-dcc.ca

.19 CSDFMA - Canadian Steel Door and Frame Manufacturing Association One Yonge Street, Suite 1400, Toronto, Ontario M5E 1J9

.20 CSPI - Corrugated Steel Pipe Institute, 201 Consumers Road, Suite 306, Willowdale, Ontario M2J 4G8

.21 CSSBI - Canadian Sheet Steel Building Institute, 652 Bishop St. N., Unit 2A, Cambridge, Ontario N3H

4V6 URL http://www.cssbi.ca

.22 CUFCA Canadian Urethane Foam Contractor's Association

.23 CWC - Canadian Wood Council, 1400 Blair Place, Suite 210, Ottawa, Ontario K1J 9B8 URL http://www.cwc.ca

.24 EC - Environment Canada, Conservation and Protection, Ottawa, Ontario KIA 0H3 URL http://www.ec.gc.ca

.25 EEMAC - Electrical and Electronic Manufacturers' Association of Canada, 5800 Explorer Drive, Suite 200, Mississauga, Ontario L4W 5K9 URL http://www.electrofed.ca

.26 EIMA EIFS Industry Manufacturer's Association, 3000 Corporate Center Drive, Suite 270, Morrow, Georgia U.S.A. 30260 URL http://www.eifsfacts.com

.27 FCC - Fire Commissioner of Canada, Place du Portage, Phase II, 165 rue Hotel de Ville, Hull Quebec K1A 0J2 URL http://www.hrdc-drhc.gc.ca

.28 MPI - The Master Painters Institute, 4090 Graveley Street, Burnaby, BC V5C 3T6 URL http://www.paintinfo.com

.29 NABA - National Air Barrier Association, 400-283 Bannatyne Avenue, Winnipeg, Manitoba R3B 3B2

.30 NEMA - National Electrical Manufacturers Association,1300 N. 17th Street, Suite 1847, Rosslyn, Virginia 22209 URL http://www.nema.org

.31 NFPA - National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101Quincy, Massachusetts, U.S.A. 02269-9101 URL http://www.nfpa.org

.32 NLGA - National Lumber Grades Authority, 406 First Capital Place, New Westminster, B.C. V3M 6G2

.33 NRC - National Research Council, Montreal Road, Ottawa, Ontario K1A 0S2 URL http://www.nrc.gc.ca

.34 RAIC Royal Architectural Institute of Canada, 55 Murray Street, Suite 330, Ottawa, Ontario, K1N 5M3 URL http://www.raic.org

.35 SCC - Standards Council of Canada, 200 Albert Street, Suite 2000, Ottawa, Ontario K1P 6N7 URL http://www.scc.ca

.36 TTMAC - Terrazzo, Tile and Marble Association of Canada, 30 Capston Gate, Unit 5 Concord, Ontario L4K 3E8 URL http://www.ttmac.com

.37 UL - Underwriters' Laboratories, 333 Pfingsten Road, Northbrook, Illinois, U.S.A. 60062 URL http://www.ul.com

.38 ULC - Underwriters' Laboratories of Canada, 7 Crouse Road, Toronto, Ontario M1R 3A9 URL http://www.ulc.ca

END

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Inspection and testing, administrative and enforcement requirements.

.2 Tests and mix designs.

.3 Mill tests.

.4 Equipment and system adjust and balance.

1.2 RELATED SECTIONS

.1 Section 01350 - Submittals.

.2 Section 01340 - Shop Drawings, Product Data, Samples.

.3 Section 01610 - Basic Product Requirements.

.3 Section 01780 - Closeout Submittals

1.3 QUALITY CONTROL

.1 Provide a system of quality control to ensure that the minimum standards specified herein are attained.

1.4 INSPECTION

.1 Bring to the attention of the Project Manager any defects in the works or departures from the Contract Documents which may occur during construction. The Project Manager will decide upon corrective action and state his recommendations in writing.

.2 The Project Manager's general review during construction and inspection by independent inspection and testing agencies are both undertaken to inform the Owner of the Contractor's performance and shall in no way augment the Contractor's quality control or relieve him of contractual responsibility.

1.5 APPOINTMENT AND PAYMENT

.1 Unless otherwis e specified, the Project Manager may appoint an Inspection and Testing Agency on behalf of the Owner to carry out the inspection and testing specified in various sections of the Specifications.

.2 Where so specified, payment for the services of the Inspection and Testing Agency will be made by the Owner.

.3 The Contractor shall be responsible for and pay for the following:

.1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.

.2 Inspection and testing performed exclusively for the Contractor's convenience.

.3 Testing, adjusting and balancing of conveying systems, mechanical and electrical equipment and systems.

.4 Mill tests and certificates of compliance.

.5 Tests specified to be carried out by Contractor.

.6 Additional tests specified in paragraph 1.5.4.

.4 Where tests or inspections by designated testing laboratory reveal work not in accordance with Contract requirements, Contractor shall pay costs for additional inspections or tests as maybe required to verify acceptability of corrected work.

1.6 ACCESS TO WORK

.1 Allow Project Manager and inspection/testing agencies access to Work, off site manufacturing and fabrication plants.

.2 Co-operate to provide reasonable facilities for such access.

.3 Notify appropriate agency and Project Manager in advance of requirement for tests, shop fabrication, field erection and other phases of the Work in order that attendance arrangements can be made.

.4 Failure to meet these requirements may be cause for the Project Manager to classify the work as defective.

1.7 PROCEDURES

.1 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.

.2 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

.3 Furnish labour and facilities to make good all work disturbed by inspections and testing.

.4 Pay all costs in connection with Contractor's related work.

.5 Pay costs for uncovering and make good work that is covered before required inspection and testing is completed and approved.

1.8 REJECTED WORK

.1 Where factual evidence exists that defective workmanship has occurred or that work has been carried out incorporating defective materials, the Project Manager may have tests, concrete cores, inspections or surveys performed, analytical calculation of structural strength made and the like in order to help determine whether the work must be replaced. Tests, inspections or surveys carried out under these circumstances will be made at the Contractor's expense, if the work proves defective.

.2 All testing shall be conducted in accordance with the requirements of the Provincial Building Code, except where this would, in the Project Manager's opinion, cause undue delay or give results not representative of the rejected material in place. In this case, the tests shall be conducted in accordance with the standards given by the Project Manager.

.3 Materials or workmanship which fail to meet specified requirements may be rejected whenever found at any time prior to final acceptance of the work regardless of previous inspection. If rejected, defective materials or work incorporating defective materials or workmanship shall be promptly removed and replaced or repaired to the satisfaction of the Project Manager, at no expense to the Owner.

1.9 TESTS AND MIX DESIGNS

.1 Furnish test results and mix designs as may be requested.

END

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Temporary utilities.

.2 Temporary barriers and enclosures.

1.2 INSTALLATION AND REMOVAL

.1 Provide temporary utilities controls in order to execute work expeditiously.

.2 Remove from site all such work after use.

1.3 ACCESS

.1 Provide and maintain access roads, sidewalks, ramps, stairs, ladders and other such means of access to the Work as may be required.

1.4 WATER SUPPLY

.1 Provide continuous supply of potable water for the use of all Trades for construction use.

1.5 TEMPORARY HEATING AND VENTILATION

.1 Provide temporary heating required during construction period, including attendance, maintenance and fuel.

.2 Construction heaters used inside building must be vented to outside or be non-flameless type. Solid fuel salamanders are not permitted.

.3 Provide temporary heat and ventilation in enclosed areas as required to:

.1 Facilitate progress of Work.

.2 Protect Work and products against dampness and cold.

.3 Prevent moisture condensation on surfaces.

.4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials.

.5 Provide adequate ventilation to meet health regulations for safe working environment.

.6 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.

.4 Maintain temperatures of minimum 15 degrees C in areas where construction is in progress.

.5 Protect floor by approved means for an area 1500mm beyond the heating unit on all sides. Take care in servicing and refueling the unit to ensure that no damage by staining results to finished floors.

.6 Where frost might penetrate floor slabs, footings or any parts of the building not specifically designed to withstand f rost penetration, provide temporary heat or adequate protection by means of straw or insulation during freezing weather.

1.6 TEMPORARY POWER AND LIGHT

.1 Provide and pay for temporary power during construction for temporary lighting and operating of power tools for the use of all Trades.

.2 Arrange for connection with appropriate utility company. Pay all costs for installation, maintenance and removal.

.3 Provide and maintain temporary lighting throughout project. Ensure level of illumination on all floors is adequate for the type of work being performed.

1.7 TEMPORARY TELEPHONE

.1 Provide and pay for temporary telephone hook up in the Contractor's office, for the use of the Contractor, Subcontractors and Owner's representatives. All long distance charges to be paid for by the party making the call.

1.8 FIRE PROTECTION

.1 Provide and maintain temporary fire protection equipment during performance of Work as required by governing codes, regulations and bylaws.

.2 Burning rubbish and construction waste materials is not permitted on site.

1.9 HOARDINGS AND BARRICADES

.1 Erect and maintain fencing and barricades in accordance with the requirements of the Authority having jurisdiction and as directed by the Owner to protect the public and workmen from injury.

.2 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

.3 Provide all necessary temporary weathertight security enclosures, doors, fastenings and keys. The building shall be properly closed and locked at nights, Sundays, holidays and other occasions when the work is not in progress.

.4 Provide all wind and weather barriers and enclosures and heat required for workmen and materials so that work and steady progress of the job shall continue at all times.

1.10 TOILETS

.1 Supply adequate number of temporary toilets, properly enclosed, weatherproof, chemical type, maintained properly; all in accordance with the regulations of the local Medical Officer of Health. Any damage to washroom and/or fixtures caused by workmen shall be made good by the Contractor.

1.11 CONTRACTOR'S OFFICE

.1 Provide office of suitable size to accommodate site meetings with subcontractors and Owner representatives. Keep office clean and adequately heated during cold weather.

1.12 UTILITY COSTS

.1 Costs for electricity, water, heating fuel including natural gas and heating oil, consumed during construction shall be borne by the Contractor, unless specified otherwise.

END

PART 1 - GENERAL

1.1 FIRES

.1 Fires and burning of rubbish on site not permitted.

1.2 DISPOSAL OF WASTES

.1 Do not bury rubbish and waste materials on site.

.2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

1.3 DRAINAGE

.1 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.

.2 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

.3 Take full responsibility for maintenance of existing drainage, above ground and underground, adjacent to the Work or affected by the Work.

.4 Before commencing any Work likely to affect the drainage of water from the Site, provide necessary alternative drainage systems to ensure that water will be conducted to alternative outlets. Do not block or impede any drain, roof outlet or rainwater leader until such safety precautions have been made.

1.4 POLLUTION CONTROL

.1 Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.

.2 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

END

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Product quality, availability, storage, handling, protection, and transportation.

.2 Manufacturer's instructions.

.3 Quality of Work, coordination and fastenings.

.4 Existing facilities.

1.2 RELATED SECTIONS

.1 Section 01450 - Quality Control.

1.3 REFERENCE STANDARDS

.1 Within text of specifications, reference may be made to reference standards contained in Section 01420 - References.

.2 Conform to these standards, in whole or in part as specifically requested in specifications.

.3 If there is question as to whether any product or system is in conformance with applicable standards, Project Manager reserves right to have such products or systems tested to prove or disprove conformance.

.4 The cost for such testing will be born by Owner in event of conformance with Contract Documents or by Contractor in event of non-conformance.

.5 Conform to latest date of issue of referenced standards in effect on date of submission of Bids, except where specific date or issue is specifically noted.

1.4 QUALITY

.1 Products, materials, equipment and articles (referred to as products throughout specifications) incorporated in Work shall be new, not damaged or defective, and of best quality (compatible with specifications) for purpose intended. If requested, furnish evidence as to type, source and quality of Products provided.

.2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.

.3 Should any dispute arise as to quality or fitness of products, decision rests strictly with Project Manager based upon requirements of Contract Documents.

.4 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.

.5 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.5 AVAILABILITY

.1 Prior to commencement of Work, review product delivery requirements and anticipate foreseeable supply delays for any items. If delays in supply of products are foreseeable, notify Project Manager of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.

.2 In event of failure to notify Project Manager at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Project Manager reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.6 STORAGE, HANDLING AND PROTECTION

.1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.

.2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.

.3 Store products subject to damage from weather in weatherproof enclosures.

.4 Store cementitious products clear of earth or concrete floors, and away from walls.

.5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.

.6 Store sheet materials, lumber, etc. on flat, solid supports and keep clear of ground. Slope to shed moisture.

.7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.

.8 Remove and replace damaged products at own expense and to satisfaction of Project Manager.

.9 Touch-up damaged factory finished surfaces to Project Manager's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.7 TRANSPORTATION

.1 Pay costs of transportation of products required in performance of Work.

.2 Transportation cost of products supplied by Owner will be paid for by Owner. Unload, handle and store such products.

1.8 MANUFACTURER'S INSTRUCTIONS

.1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.

.2 Notify Project Manager in writing, of conflicts between specifications and manufacturer's instructions, so that Project Manager may establish course of action.

.3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Project Manager to require removal and re-installation at no increase in Contract Price or Contract Time.

1.9 QUALITY OF WORK

.1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Project Manager if required Work is such as to make it impractical to produce required results.

.2 Do not employ anyone unskilled in their required duties. Project Manager reserves right to require dismissal from site, workers deemed incompetent or careless.

.3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Project Manager, whose decision is final.

1.10 CO-ORDINATION

.1 Ensure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.

.2 Be responsible for coordination and placement of openings, sleeves and accessories.

1.11 CONCEALMENT

.1 In finished areas, conceal pipes, ducts and wiring in floors, walls and ceilings, except where indicated otherwise.

.2 Before installation, inform Project Manager if there is interference. Install as directed by Project Manager.

1.12 REMEDIAL WORK

.1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Coordinate adjacent affected Work as required.

.2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.13 LOCATION OF FIXTURES

.1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.

.2 Inform Project Manager of conflicting installation. Install as directed.

1.14 FASTENINGS

.1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.

.2 Prevent electrolytic action between dissimilar metals and materials.

.3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.

.4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.

.5 Keep exposed fastenings to a minimum, space evenly and install neatly.

.6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

1.15 FASTENINGS - EQUIPMENT

.1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.

.2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.

.3 Bolts may not project more than one diameter beyond nuts.

.4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.16 POWDER ACTIVATED TOOLS

.1 The use of powder activated fasteners is prohibited without the written authorization of the Project Manager.

.2 Where such authority is given, it will be for low velocity type powder activated fasteners and for horizontal application only.

.3 The manufacturer of the equipment selected shall send a representative to the site to demonstrate the equipment prior to its use, and this representative shall make periodic inspections to ensure compliance with instructions issued by him and correct application of material. In all cases a shield shall be used where fasteners are to be applied to concrete. The use of fasteners in precast concrete is to be avoided if possible as there is an increased tendency to shatter surfaces.

.4 Fasteners shall be not nearer than 63mm to the edge of any cast-in-place formed concrete member.

.5 Under no circumstances shall such fasteners be used on concrete members less than 75mm in thickness.

.6 Such fasteners shall not be used in areas where corrosion can take place, for instance due to high humidity or condensation.

.7 Generally use support anchorage of cast-in-place type set into concrete forms prior to pouring of concrete, or self-drilling type. When drilling upward, use jig to hold drill steady and plumb.

.8 Provide pull-out tests on anchors, or otherwise test to ensure anchorage is sufficient for the particular application including a minimum safety factor of seven. Provide evidence of such tests if requested.

.9 Submit samples of proposed anchoring or hanging devices with technical data and test data.

1.17 PROTECTION OF WORK IN PROGRESS

.1 Prevent overloading of any part of building. Do not cut, drill or sleeve any load bearing structural member, unless specifically indicated, without written approval of Project Manager.

1.18 EXISTING UTILITIES

.1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, or pedestrian and vehicular traffic.

.2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

END

PART 1 - GENERAL

1.1 RELATED SECTIONS

.1 Section 01350 - Submittals.

1.2 REFERENCES

.1 Canada Labour Code, Canada Occupational Safety and Health Regulations.

.2 Canadian Standards Association (CSA)

.1 CSA S350-M1980, Code of Practice for Safety in Demolition of Structures.

.3 Provincial Occupational Health and Safety Regulations.

.4 Federal legislation pertaining to WHMIS (Worksite Hazardous Materials Information System).

.5 Provincial Workers' Compensation Acts.

1.3 OVERVIEW - SAFETY AND LOSS CONTROL

.1 The philosophy in regards to safety and loss control is as follows:

.1 The health and safety of employees are of paramount importance in the conduct of our business.

.2 Risks inherent in all operations must be managed to prevent occupational injuries and illness.

.3 All levels of management are responsible and are held accountable for providing a safe work environment with proper equipment, procedures, training and programs.

.4 All employees must accept their responsibility to comply with health and safety legislation and with established rules and procedures. Employees are expected to work in a manner which safeguards themselves and co-workers.

.5 We expect excellence in health and safety performance to be achieved through the support and active participation of all employees.

.2 Contractor shall develop its own equivalent philosophy statements.

.3 Contractor is required to develop and administer its own safety program.

1.4 RULES AND REGULATIONS

.1 From time to time, dependent on certain conditions and/or circumstances, a requirement may arise for the Contractor to provide a Safety Method Statement prior to a specified task being commenced. In such an event the Contractor would be required to co-operate fully with such requirements.

.2 Proper and reasonable care must be taken to protect the Work, property and personnel of Contractor, Owner and others against accident or injury. The entire Work is the responsibility of Contractor who will be held accountable for all damage or injury that may occur to the Work or to individuals or property to the extent required by law and the Contract Documents until the Work is formally accepted by the Owner.

.3 Contractor's and its sub-contractor's personnel found impaired on the job due to intoxication or the influence of drugs shall be subject to instant dismissal.

.4 Employees of Contractors or of its sub-contractors performing work on a project site shall not be less than eighteen (18) years of age.

1.5 PROTECTIVE EQUIPMENT

.1 It shall be the responsibility of Contractor to furnish all tools and equipment necessary to carry out the work safely. Personnel of Contractor and its sub-contractors are not allowed to use J and B's tools or equipment. Permission to do so is obtained from the Project Manager on an exclusive basis as required.

Contractor is responsible for all maintenance, service and supplies for its equipment.

.2 Contractor shall provide and maintain all barricades, guard fences and temporary warning lights at all places subject to traffic in accordance with governing safety regulations.

.3 All Contractor's and sub-contractor's employees working on a site (outside) must wear a hard hat. Contractor shall have 5 extra hard hats on site at all times for visitors to the site.

.4 The wearing of CSA approved Grade II footwear is mandatory. This excludes any steel toed running shoes.

.5 All employees of Contractor and sub-contractor shall wear or use such personal protective clothing, equipment or devices as necessary for a worker's protection from the particular hazard to which the worker may be exposed.

.1 All workers are to wear long pants.

.2 All workers are to wear a shirt.

.3 All workers are to wear gloves when handling rough materials.

.6 The Contractor's employees shall wear adequate eye protection when welding, sandblasting, grinding and chipping.

.7 Workers require hearing protection when exposed for a significant period of time (10 minutes) to noise in excess of 85 dBa.

.8 All workers subject to the hazard of falling more than 3 metres shall wear an approved safety harness secured to the structure unless the Contractor is engaged in connecting structural members of a skeleton structure.

.9 Life jackets shall be worn where appropriate.

.10 In a situation where combustible gases or vapour can accumulate (i.e working in or around existing tanks) there may be a periodic verification with an appropriate monitoring device (Combination Gas Monitor) prior to commencement of work and in some case during the work according to need.

.11 Enclosed spaces such as a storage tank must be monitored with an Oxygen deficiency Monitor to ensure adequate oxygen supply prior to the entrance by workers. This is in addition to the other safety precautions required for this type of work.

.12 Contractor shall have on the project site at all times, one 10lbs fire extinguisher available to all personnel. Contractor shall ensure each welding machine is equipped with one 20lbs minimum capacity dry chemical fire extinguisher. In addition, Contractor shall supply one 30lbs minimum capacity dry chemical fire extinguisher at the point of welding, grinding or cutting operation if it is remote from the machine. Extinguishers shall be maintained in good operating condition.

1.6 PREVENTIVE/PRECAUTIONARY PROCEDURES.

.1 The area where work is being done by the Contractor shall be barricaded from access by the Public with snow fencing. The Construction Sign with the following message will be clearly displayed:

CONSTRUCTION AREA.

HARD HAT AND SAFETY SHOE AREA.

NO SMOKING AREA.

.2 Contractor's Work Sites must be kept clean and free of equipment and debris which may create fire hazard, pollution concern or personnel hazard. Unless specified otherwise, waste materials shall be removed by the Contractor and placed in disposal containers.

.3 It is important that all areas where workers are present or circulating be adequately illuminated.

.4 The Contractor shall use precaution when working on electrical equipment by isolating all electrical lines prior to servicing.

.5 The Contractor shall isolate and blank the product lines when doing hot work on all such lines.

.6 All underground structures shall be identified by the Contractor prior to start of job with particular emphasis on electrical lines and gas lines, whose accidental rupture could cause serious injury. The Contractor must use extreme care during mechanical excavation to avoid damage to underground operating facilities. Hand probing shall be used in proximity to known obstructions.

.7 Particular attention should be given to the removal and disposal of old underground tanks. Removal of flammable vapours and liquids is required prior to disposal.

.8 The Contractor shall shore all excavations in compliance with Provincial O H & S Regulations.

.9 All excavations deeper than 150mm shall be barricaded. All excavations greater than 300mm deep (especially area of tank installation) shall be barricaded with snow fencing. Also when doing island or apron work, this area will be secured by snow fencing.

.10 The Contractor shall minimize the use of ladders and minimize the use of scaffolding. If ladders are used for continuous access they should be tied off.

.11 When using scaffolding above a height of 2400mm the scaffolding shall have guardrails and kick plates. Scaffolding is to be used whenever removing a building overhang.

.12 The Contractor must identify any precautions he will be required to take in avoiding the hazards of overhead electrical lines.

.13 Use of cranes for canopy and sign installation should have an experienced operator for overhead work and a signalman.

.14 Welding ground returns must be placed on the material being welded and closely adjacent of the arc, unless an alternative system has been approved by the Project Manager.

.15 Fire prevention procedure while welding Canopy retrofits: In cases where welding is necessary on canopy retrofits the following fire prevention procedure must be followed:

.1 Advise operator that all pumps/dispensers within a 8 metre radius be shut down during welding.

.2 Turn off switches at electrical panel for pumps/dispensers under canopy.

.3 Turn off pump/dispenser panels and inspect each unit for leaks - do not proceed until leaks have been stopped.

.4 Place 0.25 kg of dry ice in cavity under each pump/dispenser.

.5 Replace pump panels.

.6 Protect pump/dispenser from slag fallout with plywood or heavy canvas.

.7 A fire monitor must stand by full time to:

.1 Monitor and replace dry ice if necessary.

.2 Extinguish fire if necessary using extinguishers (use service station on-site dry chemical extinguisher).

1.7 COMMUNICATIONS/WORK FOLLOW-UP/TRAINING

.1 Safety policies/issues will be discussed at the pre-construction/pre-award Meeting (see Section 01310).

.2 On a weekly basis Contractor representative shall conduct "tool box" meeting(s) with all Contractor employees to discuss safety concerns, safety promotion tapes, etc. Expected duration is 15 - 30 minutes. The Owner shall assist by providing statistical data, potential safety topics. Action items generated from this meeting shall be followed up immediately. A copy of the minutes of each meeting (handwritten) indicating attendees, topic(s) discussed, follow-up actions, shall be given to the Project Manager.

.3 On a regular basis the Contractor representative shall conduct Work Site safety job observations. All unsafe acts or unsafe conditions shall be corrected immediately.

.4 On a regular basis the Owner's representatives shall conduct job observations of the Work Site using the Job Site Inspection Checklist and bring to the attention of the Contractor representative any unsafe

concerns. Where warranted , the Owner representative shall stop any or all Contractor activity on the Work Site until unsafe conditions or unsafe procedures are rectified to the satisfaction of the Owner.

.5 The Contractor shall do a qualification check-out and subsequent job observation to ensure new workers have the necessary skills and knowledge.

.6 Contractor shall provide safety training for all workers on an as-needed basis to include:

.1 Rules and regulations.

.2 Potential work hazards.

.3 Safe work methods.

.4 Responsibility for safety.

.5 Use and care of personal protective equipment.

.6 Others as a unique job situation may require.

1.8 INCIDENTS AND INJURIES

.1 Procedures for emergencies must be established with the Owner before Contractor proceeds with any work on the Work Site.

.2 Within 24 hours of occurrence of any of the following, a Marketing Incident Report Form must be submitted to the Owner's representative:

.1 Disabling Injury.

.2 Personal Injuries which result in lost time extending beyond the day of the accident.

.3 Medical Aid - personal injuries which require medical treatment - no lost time beyond the day of the incident. N.B. If complications develop at a later date which result in lost time a follow-up report will be required reclassifying the incident as a lost time.

.4 First Aid - any one time treatment or subsequent observation of minor scratches, cuts, burns, splinters, which do not require medical care.

.5 Vehicle Accidents - all accidents involving vehicles used for the construction activity.

.6 Fires - all fires regardless of size or resulting damage - either to Owner facilities or to the Contractor facilities or the facilities of others.

.7 Property Damage - stationary structures - buildings - surface piping (manifolds, overhead piping, etc) – tanks - buried pipelines - vessels - etc, includes Owner's, Contractor's and others.

.8 Equipment Damage - rotating equipment - pumps - compressors - drivers - crawler equipment - cranes - excavating equipment etc, includes Owner's, Contractor's and others.

.9 Material Losses - theft of construction materials - materials damaged in transit - material losses due to poor quality control of the work etc.

.10 Business Interruptions - any and all unplanned construction incidents which result in production losses -schedule disruption/delays - financial losses to Owner, etc.

.11 Security - all security violations which occur as a result of the unauthorized action of Contractor and/or employees working under his direct or indirect supervision (third party).

.12 Near Accidents - all unplanned events which did not result in any losses whereby losses were only avoided by luck.

.13 Other - all other incidents, which are not classified, which resulted in losses to Owner, Contractor and others.

END

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Field engineering survey services to measure and stake site.

.2 Survey services to establish and confirm inverts for Work.

1.2 RELATED SECTIONS

.1 Section 01110 - General Instructions.

1.2 SURVEY REFERENCE POINTS

.1 Existing base horizontal and vertical control points are designated on drawings.

1.3 SETTING OUT WORK

.1 Contractor to assume full responsibility for and execute complete layout of work to locations, lines, and elevations indicated.

.2 Verify all grades, lines, and dimensions as indicated and report any discrepancies to the Project Manager before commencing work.

.3 Provide Sub-Contractors with, and be responsible for, all levels and dimensions as Sub-Contractors require to co-ordinate their work and the work of other Trades.

.4 Provide all devices needed for laying out and constructing work.

.5 Contractor shall be responsible for verifying layout of building in relationship to property lines when foundations are built and on completion of building.

END

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Requirements and limitations for cutting and patching the Work.

1.2 RELATED SECTIONS

.1 Individual product Sections: cutting and patching incidental to work of section. Advance notification to other sections required.

1.3 PREPARATION

.1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.

.2 Beginning of cutting or patching means acceptance of existing conditions.

.3 Provide supports to assure structural integrity of surroundings.

.4 Provide protection from elements for areas which may be exposed by uncovering work.

1.4 EXECUTION

.1 Execute cutting, fitting, and patching to complete Work.

.2 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.

.3 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.

.4 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

.5 At penetration of fire rated wall, ceiling, or floor construction, completely seal voids with firestopping material, full thickness of the construction element.

.6 Refinish surfaces to match adjacent finishes.

.7 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

END

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Progressive cleaning.

.2 Final cleaning.

1.2 RELATED SECTION

.1 Section 01770 - Closeout Procedures.

1.3 PROJECT CLEANLINESS

.1 Conduct cleaning and disposal operations to comply with local ordinances, anti-pollution laws, and recommendations of Construction Safety Association, and local authorities having jurisdiction.

.2 Maintain project grounds and public sidewalks in tidy condition, free from accumulation of waste products and debris. Do not allow rubbish to accumulate in work under construction or on roofs.

.3 Provide on-site containers for collection of waste materials and debris.

.4 Prevent accumulation of wastes which create hazardous conditions.

.5 Vacuum clean interior areas prior to start of finish work, and maintain areas free of dust and other contaminants during finishing operations.

.6 Store volatile waste in covered metal containers, and remove from premises at end of each working day.

.7 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.

.8 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

.9 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

.10 Cleaning operations shall include those areas used for temporary site access or used on a temporary basis to facilitate the Work.

1.4 FINAL CLEANING

.1 Provide instructions designating proper methods and materials to be used in final cleaning of the Work.

.2 Prior to final acceptance, remove surplus products, tools, construction machinery and equipment.

.3 Clean and polish glass (on both sides), mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.

.4 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, millwork, walls, and floors. Remove protective materials.

.5 Remove paint spots and smears from all surfaces.

.6 Clean lighting reflectors, lenses, and other lighting surfaces.

.7 Vacuum clean and dust building interiors, behind grilles, louvres and screens.

.8 Wax, seal, shampoo or prepare floor finishes, as recommended by manufacturer.

.9 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.

.10 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.

.11 Remove dirt and other disfiguration from exterior surfaces.

.12 Sweep and wash clean paved areas.

.13 Clean equipment and fixtures to a sanitary condition; clean or replace filters of mechanical equipment.

.14 Clean roofs, downspouts, and drainage systems.

.15 Remove debris and surplus materials from roof areas.

.16 Remove snow and ice from access to building.

.17 Remov e waste products and debris and leave the Work broom clean and suitable for occupancy to the Project Manager's approval.

END

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Administrative procedures preceding preliminary and final inspections of Work.

1.2 RELATED SECTIONS

.1 Section 01740 - Cleaning.
.2 Section 01780 - Operations and Maintenance Data.

1.3 INSPECTION AND DECLARATION

.1 Contractor's Inspection: Contractor and all Subcontractors shall conduct an inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.1 Notify Project Manager in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.

.2 Request Project Manager's Inspection.

.2 Project Manager's Inspection: Project Manager and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor shall correct Work accordingly.

.3 Completion: submit written certificate that following have been performed:

.1 Work has been completed and inspected for compliance with Contract Documents.

.2 Defects have been corrected and deficiencies have been completed.

.3 Equipment and systems have been tested, adjusted and balanced and are fully operational.

.4 Certificates required by Authorities having jurisdiction have been submitted.

.5 Operation of systems have been demonstrated to Owner's personnel.

.6 Work is complete and ready for Final Inspection.

.4 Final Inspection: when items noted above are completed, request final inspection of Work by Project Manager and Contractor. If Work is deemed incomplete by Project Manager, complete outstanding items and request reinspection.

.5 Declaration of Substantial Performance: when Project Manager considers deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for certificate of Substantial Performance.

.6 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance shall be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.

.7 Final Payment: When Project Manager consider final deficiencies and defects have been corrected and it appears requireme nts of Contract have been totally performed, make application for final payment. If Work is deemed incomplete by Project Manager, complete outstanding items and request reinspection.

.8 Payment of Holdback: After issuance of certificate of Substantial Performance of Work, submit an application for payment of holdback amount in accordance with General Conditions of the Contract.

END

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 As-built Drawings.

.2 Equipment and systems.

.3 Product data, materials and finishes, and related information.

.4 Operation and maintenance data.

.5 Warranties and bonds.

1.2 RELATED SECTIONS

.1 Section 01340 - Shop Drawings, Product Data, Samples.

.2 Section 01450 - Quality Control.

.3 Section 01770 - Closeout Procedures.

1.3 SUBMISSION

.1 Prepare instructions and data by personnel experienced in maintenance and operation of described products.

.2 On Substantial Performance of the Work, submit to the Project Manager, two final copies of Operations Data and Maintenance Manuals.

1.4 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 (8 1/2 x 11) with spine and face pockets.

.3 Cover: Identify binder with typed or printed title 'Operations Data and Maintenance Manual'; list title of project, date and identify subject matter of contents.

.4 Arrange content by applicable sections of work to parallel Project Specification break-down.

.5 Provide tabbed fly leaf for each separate Section, protected with celluloid covers fastened to hard paper dividing sheets.

.6 Text: Manufacturer's printed data, or typewritten data.

.7 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

1.5 CONTENTS

.1 Table of Contents to include the following:

.1 Title of project and date of submission.

.2 Names, addresses, and telephone numbers of Consultant 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 of names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.

.3 Maintenance instruction for finished surface and materials.

.4 Copy of hardware and paint schedules.

.5 Description, operation and maintenance instructions for equipment and systems, including complete list of equipment and parts list. Indicate name plate information such as size, make, capacity and serial number.

1.6 AS-BUILT DRAWINGS

.1 Provide As-Built Drawings (Record Drawings) as specified in Section 01350.

1.7 GUARANTEES, WARRANTIES AND BONDS

.1 Show name and address of Project.

.2 Indicate duration of Warranty, what is being guaranteed and what remedial action will be taken under guaranty.

.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 Owner'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 signed and sealed by the Contractor.

.6 Neatly type lists and notes. Use clear drawings, diagrams or manufacturer's literature.

.7 Include one complete set of final approved Shop Drawings (bound separately) indicating corrections and changes made during fabrication and installation.

END