

1.0 SETTING OUT

- 1.1 Lay out Work with reference to existing conditions and as shown on drawings.
- 1.2 Verify grades, lines, levels where applicable and dimensions indicated and report any errors or inconsistencies to the Contract Administrator before commencing work. Confirm job dimensions at once to allow prompt checking of shop and other drawings.
- 1.3 Locate and fix location of services, walls, partitions, shafts and all parts of the construction, as work proceeds.

2.0 BUILDING DIMENSIONS

- 2.1 Ensure that necessary job dimensions are taken and trades are coordinated for the proper execution of the Work. Assume complete responsibility for the accuracy, completeness and coordination of such dimensions.
- 2.2 Verify that Work as it proceeds, is executed in accordance with dimensions and positions indicated which maintain levels as set out by requirements of the drawings, and ensure that Work installed in error is rectified before construction continues.
- 2.3 Check and verify dimensions referring to Work and interfacing of services. Dimensions, when pertaining to the work of other trades, shall be verified with the trade concerned. Ensure that Subcontractors from various trades cooperate for the proper performance of the Work.
- 2.4 Do not scale directly from the drawings. If there is ambiguity or lack of information, immediately inform the Contract Administrator. Any change through the disregarding of this clause shall be the responsibility of the Contractor.
- 2.5 All details and measurements of any work which is to fit or to conform with work installed shall be taken at the Site.

3.0 CERTIFICATION

- 3.1 Furnish to the City & Contract Administrator, verification in the form of a drawing from a licenses Provincial Land Surveyor that the building and its various parts are located in accordance with Contract requirements.
- 3.2 The surveyor's certification shall represent independent and disinterested verification of Contractor's layout work. Selection of a Surveyor for this purpose shall be subject to the City's approval. Surveyor shall not be a regular employee of Contractor, nor shall he have any interest in the Contract.
- 3.3 The surveyor's certification shall be in the form of signed original drawings showing exact location of exterior wall lines and foundations, final finished grades, note exceptions or deviations from contract drawings, and location of all buried services

- END OF SECTION -

1.0 LAWS, ORDINANCES, RULES, REGULATIONS, NOTICES, PERMITS, LICENCES, CERTIFICATES

- 1.1 All information contained in the drawings and specifications is intended to be in compliance with the requirements of any law, bylaw, code or regulation of municipal, provincial or other authorities having jurisdiction.
- 1.2 Comply with the local building codes, laws, ordinances, rules, regulations, codes and orders of all authorities having jurisdiction relating to the Work, to the preservation of the public health and construction safety which are or become in force during the performance of the Work.
- 1.3 Submit and pay for inspection certificates and approvals where applicable, as evidence that installed work conforms with regulations of authorities having jurisdiction.
- 1.4 Pay all assessments for Unemployment Insurance and Canada Pension as required by the Provincial or Federal Government and for Workers' Compensation as required by the Workers' Compensation Board.
- 1.5 Make all deductions from wages paid and make all remittances with respect to Income Tax, Unemployment Insurance and Provincial Hospital Insurance as required by law.
- 1.6 Refer to Instructions to Bidders for Building Permit and other permits, licences, etc., required for the execution of the Work of this project. Contractor to call for final inspections and issue final certificates.

2.0 PATENTS

- 2.1 The Contractor shall pay all royalties and license fees and shall indemnify and save the City, harmless from and against any and all loss, costs (including costs as between solicitor and client), changes, damages, claims and demands whatsoever, which may arise by reason of the Work on account of or because of infringement of patents in force at the time of the signing of the Contract Documents.

3.0 FIRE SAFETY FEATURES

- 3.1 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. The Contractor shall ensure that the work of Subcontractors is properly coordinated to achieve the intent of this specification.
- 3.2 The Contractor shall ensure that:
 - .1 Where fire rated partitions are specified, cartons in which such materials are delivered to the Site have Underwriters' Laboratories labels indicating the fire resistive ratings.
 - .2 All trades affected are fully acquainted with the requirements of this Article.

- END OF SECTION -

1.0 **GENERAL**

1.1 **WORK COVERED BY CONTRACT DOCUMENTS**

1. This Contract includes all work, materials and procedures as indicated on the drawings and in the specifications and other documents referenced or related to this project.
2. Work under this Contract covers:
 - .1 Demolition and removal of the existing Comfort Station and prepping the Site for the construction of the new Comfort Station.
 - .2 Setting out and construction of a new Comfort Station for Winnipeg Transit on the City's bus loop premise.
 - .3 The general spirit and intent of the Drawings and Specifications to be taken shall be that a complete job is called for.

1.2 **CODES AND STANDARDS**

1. All Work shall be in accordance with latest issue of the applicable regulations and standards listed below and as stated in the project specifications:
 - .1 Manitoba Building Code
 - .2 Manitoba Fire Code
 - .3 Federal, Provincial and Municipal government laws, ordinances and codes, where such standard laws, rules, ordinances and codes are applicable.
2. Work shall meet or exceed requirements of specified standards, codes and referenced documents. Even if permitted by preceding regulations and standards, grade of work shall in no case be lower than specified in the project specifications.
3. Electrical components and equipment which are not CSA approved shall be approved by the Manitoba Department of Labour and Manpower prior to connection to the electrical service. Pay for all costs associated with obtaining the necessary approval.
4. Unless specified otherwise, Contractor shall at his own expense obtain all required permits and certificates of inspection and approval from proper authorities. These shall be turned over to the Contract Administrator prior to Certificate of Substantial Performance being issued.

1.3 **SETTING OUT OF WORK**

1. Assume full responsibility for and execute complete layout of Work to locations, lines and elevations indicated.
2. Provide devices needed to lay out and construct Work.
3. Supply such devices as straight edges and templates required to facilitate Contract Administrator's inspection of the Work.

1.4 **CONTRACTOR USE OF SITE**

1. Use of Site: limited to areas indicated on plans for work and storage.
2. Do not unreasonably encumber Site with materials or equipment.
3. Move stored products or equipment which interferes with operations of the City or other contractors.

4. Obtain and pay for use of additional storage or work areas needed for operations or for delivered equipment or materials not required immediately on Site.
5. Keep all fire lanes, egress and access routes clear at all times.

1.5 **PLANNING OF WORK**

1. Adjacent Site area of driveway and bus loop will be kept operational and accessible at all times by the City during term of this contract.

1.6 **OCCUPANCY BY THE CITY**

1. The City has right to enter and occupy building in whole or in part before completion of Contract provided that, in the opinion of Contract Administrator, such entry and occupancy does not prevent or interfere with Contractor in completion of Contract.

2.0 **PRODUCTS (NOT APPLICABLE)**

3.0 **EXECUTION (NOT APPLICABLE)**

- END OF SECTION -

1.0 GENERAL

1.1 DESCRIPTION

- .1 Section includes administrative provisions for coordinating construction operations for the Project including, but not limited to, the following:
 - 1. General project coordination procedures.
 - 2. Administrative and supervisory personnel.
 - 3. Project meetings.

1.2 RELATED SECTIONS

- .1 Summary of Work Section 01110
- .2 Contract Closeout Section 01700

1.3 DESCRIPTION

- .1 Coordination of progress schedules, submittals, use of Site, temporary utilities, construction facilities, and construction work, with progress of Work of other contractors and subcontractors under instructions of Contract Administrators.
- .2 Be fully responsible for the care and control of the project and the Site. Ensure that the project is carried forward in a proper manner and as expeditiously as possible.
- .3 Coordinate and direct all trades and be responsible for division of work between trades, including any jurisdictional involvements.
- .4 Be responsible for scheduling of materials and exchange of information between trades for execution and completion of Work, such as, shop drawings, progress schedules, articles to be built in and location of openings.
- .5 Coordinate and conduct Orientation / Educational / Coordination meetings required under various Sections regarding Workplace Health & Safety, Waste Disposal and Recycling and any other meetings called for.

1.4 EXAMINATION AND FIELD MEASUREMENTS

- .1 Check and verify dimensions relating to the Work. Verify dimensions affecting work of other trades with trades concerned. Check dimensions and actual material to be used on the Work with drawings for interfacing including existing work before work commences. Report any variations for adjustment if necessary.
- .2 Examine surfaces and structures underlying, or adjacent to the Work to be installed or affecting Work to be executed.
- .3 Commencement of Work implies acceptance of all existing conditions and no extra claims based on these conditions will be permitted.
- .4 Where field measurements are not available before fabrication is commenced, required dimensions shall be submitted by the trades concerned.
- .5 Drawings are, in part, diagrammatic and are intended to convey scope of work and indicate general and approximate location, arrangement and sizes of items and equipment. Obtain more accurate information about locations, arrangement and sizes from study and coordination of shop drawings, including pertinent Architectural, Structural, Mechanical and Electrical drawings and become familiar with conditions and space affecting these matters

before proceeding with Work.

- .6 It shall be Contractor's responsibility that specifications, drawings, job conditions, and other technical information are examined and job dimensions checked by his Subcontractors, suppliers and by his own forces and that the requirements of the Contract are clearly understood and followed by all trades in the execution of the Work.

1.5 PROJECT MEETINGS

- .1 Conduct monthly job meetings of parties concerned with the progress of the project. When progress of work requires more frequent job meetings, a new schedule of job meetings will be arranged between parties concerned.
- .2 The contractor will record the minutes of each meeting, attendance and distribute copies to all parties involved.

1.6 CONSTRUCTION ORGANIZATION AND START-UP

- .1 Within 10 days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Establish time and location of meetings and notify parties concerned minimum 5 days before meeting.
- .3 Agenda to include following:
 - .1 Appointment of official representative of participants in Work
 - .2 Schedule of Work.
 - .3 Schedule of submission of shop drawings, samples, colour chips in accordance with Section 01330 - Submittal Procedures.
 - .4 Delivery schedule of specified equipment.
 - .5 Site security.
 - .6 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, and administrative requirements.
 - .7 Record drawings in accordance with Section 01700 – Contract Closeout.
 - .8 Monthly progress claims, administrative procedures, photographs, and holdbacks.
 - .9 Appointment of inspection and testing agencies.
 - .10 Insurances and transcript of policies.
- .4 During construction coordinate use of Site and facilities through Contract Administrator / the City's procedures for intra-project communications: Submittals, reports and records, schedules, coordination of drawings, recommendations, and resolution of ambiguities and conflicts.

1.7 ON-SITE DOCUMENTS

- .1 Maintain at job site, one copy each of the following:
 - .1 Contract drawings and Specifications
 - .2 Addenda.
 - .3 Reviewed shop drawings.
 - .4 Change orders.
 - .5 Other modifications to Contract.
 - .6 Field test reports.
 - .7 Copy of approved Work schedule.
 - .8 Manufacturers' installation and application instructions.
 - .9 Labour conditions and wage schedules.

1.8 SCHEDULES

- .1 Submit preliminary construction progress schedule to Contract Administrators. Schedule to show anticipated progress stages and final completion of Work within time period required by contract documents.
- .2 After review, revise and resubmit schedule to comply with revised project schedule.
- .3 During progress of Work revise and resubmit as directed by Contract Administrator.

1.9 SUBMITTALS

- .1 Make submittal to Contract Administrators for review. Submit preliminary shop drawings, product data and samples in accordance with Section 01330 for review for compliance with Contract Documents; for field dimensions and clearances, for relation to available space, and for relation to Work of other contracts. After review, revise and resubmit for transmittal to Contract Administrators.
- .2 Submit requests for interpretation of Contract Documents, and obtain instructions through Contract Administrators.
- .3 Deliver closeout submittals for review and preliminary inspections, for transmittal to Contract Administrators.

1.10 COORDINATION DRAWINGS

- .1 Provide information required by Contract Administrators for preparation of coordination drawings.
- .2 Review and approve revised drawings for submittal to Contract Administrators.
- .3 Contract Administrators may furnish additional drawings for clarification. These additional drawings have same meaning and intent as if they were included with plans referred to in contract documents.

1.11 CLOSEOUT PROCEDURES

- .1 Notify Contract Administrators when Work is considered ready for Substantial Performance.
- .2 Accompany Contract Administrators on preliminary inspection to determine items listed for completion or correction.
- .3 Comply with Contract Administrators' instructions for correction of items of Work listed in executed certificate of Substantial Performance and for access to the City-occupied areas.
- .4 Notify Contract Administrators of instructions for completion of items of Work determined in Contract Administrators' final inspection.

2.0 PRODUCTS

Not Used

3.0 EXECUTION

Not Used

- END OF SECTION -

1.0 GENERAL

1.1 SHOP DRAWINGS

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by the Contractor to illustrate details of a portion of the Work.
- .2 The Contractor shall arrange for the preparation of clearly identified shop drawings as called for by the Contract Documents or as the Contract Administrator may reasonably request.
 - .1 Drawings shall be prepared by qualified draftsmen, shall show project title and shall be properly dimensioned, detailed, dated, checked, initialled, and certified by responsible supplier. Shop drawings shall be checked by the Contractor and shall bear his stamp of approval before submission. Provide a 40 mm x 40 mm clear space for Contract Administrator's stamp.
 - .2 Shop drawings shall show:
 - a) The stamp or seal of a Professional Engineer registered in the province where the Work is being performed, for Work required by the specifications to be professionally designed.
 - b) Fabrication and erection dimensions.
 - c) Sections, arrangements and details which indicate complete construction, as well as all interconnections with other Work.
 - d) Location and type of exposed anchors and fastenings.
 - e) Kinds of materials and finishes.
 - f) Descriptive names of equipment and mechanical and electrical characteristics when applicable.
 - g) Data verifying that superimposed loads will not affect function, appearance and safety of work shown on shop drawings, as well as other work interconnected.
 - h) Assumed design loadings, all dimensions of elements and material specifications for all load-bearing members.
 - i) Proposed chases, sleeves, cuts and holes in structural members.
 - .3 Manufacturers' printed data sheets for standard items will be acceptable providing all pertinent characteristics are identified and relate to the actual item to be supplied. Submit six (6) copies minimum.
 - a) Delete information which is not applicable to project.
 - b) Show dimensions and clearances required.
 - c) Show performance characteristics and capacities.
 - d) Show wiring diagrams (when applicable) and controls.
 - e) Poor quality reproductions will not be accepted.
 - f) Provide space on one sided copies for Contract Administrator's stamp.
 - .4 All items shown on shop drawings shall meet the requirements of the Contract Documents and job conditions.
- .3 Prior to submission to the Contract Administrator, the Contractor shall review all shop drawings. By this review the Contractor represents that he has determined and verified all

field measurements, field construction criteria, materials, catalogue numbers and similar data or will do so, and that he has checked and coordinated each shop drawing with the requirements of the Work and of the Contract Documents.

- .1 The Contractor's review of each shop drawing shall be indicated by stamp, date and signature of a responsible person.
- .2 Notify the Contract Administrator in writing of any changes from the Contract Documents.
- .4 The Contractor shall submit shop drawings to the Contract Administrator for his review with reasonable promptness and in orderly sequence so as to cause no delay in the Work or in the Work of other Contractors.
- .5 The Contract Administrator's review will be for conformity to the design concept and for general arrangement only, and such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of the Contract Documents unless a deviation on the shop drawings has been approved separately in writing by the Contract Administrator.
 - .1 The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for coordination of the Work of all Subcontractors.
- .6 The Contractor shall make any changes in shop drawings which the Contract Administrator may require consistent with the Contract Documents and resubmit unless otherwise directed by the Contract Administrator. When resubmitting, the Contractor shall notify the Contract Administrator in writing of any revisions other than those requested by the Contract Administrator.
- .7 Submit shop drawings to the Contract Administrator in the form of one "sepia" (reproducible) and three (3) white prints of each or electronic copy in PDF format.. Only the "sepia" will be returned to the Contractor. "Certified" copies or pages from manufacturer's catalogues are not required by the Contract Administrator unless otherwise specified or requested.
 - .1 One copy of each "Reviewed-as-noted" drawing and "Certified" copies of pages from manufacturer's catalogue shall be available at the site office.
 - .2 Submit an updated copy of Shop Drawing Index to the Contract Administrator.
- .8 It shall be clearly understood that the Contractor and each Subcontractor is expected to operate as an expert in his respective field. Qualified professional personnel shall be responsible for design and detailing. Sufficient study must be exercised during preparation of shop drawings to develop from Contract Administrator's drawings and specifications practical and satisfactory results insofar as use of materials, erection and coordination with other trades are concerned. The Contractor shall save the City and Contract Administrators harmless from any defects resulting from failure in this regard, including the cost of remedial action necessary before or after completion of the Work.
- .9 Prior to the cutting of any structural member, submit to the Contract Administrator properly dimensioned drawings showing proposed chasing, sleeving, cutting and drilling of structural members. Do not proceed until written approval has been given.

- .10 Contractor shall be responsible for submission and approval of shop drawings by authorities having jurisdiction as required by local rules, laws or regulations prior to submission to the Contract Administrator.

1.2 SAMPLES

- .1 Submit samples of the size and quantity specified, three minimum, for the various materials prepaid to the City's address. Mark samples on the back to show type of material, producer's name, Subcontractor's name, and the project name. Where changes or modifications of the materials for which samples are submitted are required consistent with the Contract Documents, resubmit samples with the required changes or modifications. Such changes or modifications shall not affect the Contract Sum.
- .2 Approved samples will serve as a model against which the products incorporated in the Work shall be judged. Keep one approved sample in a locked cabinet in the field office.
- .3 Products incorporated in the Work shall match the approved samples.
- .4 Submit finish range samples for approval before proceeding with production. Use these samples for comparison purposes during production finishing. Make samples large enough so that a good comparison can be made to establish allowable range.
- .5 Samples shall become the property of the City.

1.3 PROGRESS REPORTS

- .1 Keep a permanent written record on the site of the daily progress of the Work ready for inspection at all reasonable times. Submit a copy of the report upon request.
- .2 Show the dates of commencement and completion of the different trades and parts of the Work, number of men engaged on the Work (including all sub-trades), and the division of the Work and include particulars regarding daily weather conditions and temperature.
- .3 Submit a summary of the daily reports upon request by the City.

1.4 PROGRESS PHOTOGRAPHS

- .1 Upon commencement of the Work and at weekly intervals until Work is completed, take twenty-four coloured photographs or digital pictures at locations of the building as selected by the Contract Administrator, showing progress of the Work.
- .2 Submit two copies of each photograph or one copy of digital pictures on a disk or CD.
- .3 Include for the total number of photographs, but the Contract Administrator shall have the right to request that fewer photographs be taken at certain intervals, so that more photographs may be taken at other times, providing that the total number of photographs taken remains the same. (5' x 7')
- .4 The prints shall be of a size agreed to by the City, and glossy finish.
 - .1 Each photograph shall have at the lower right-hand corner a white patch with the name of the project and the date and location of the exposure.

1.5 OTHER SUBMISSIONS

- .1 Submit Reports and Schedules called for under various Sections.

1.6 MAINTENANCE (O & M) MANUALS

- .1 When Work is complete, submit three copies of all Warranties, manufacturer's literature and other information for materials and equipment as listed in various sections of the specification (including Divisions 15 and 16).
- .2 Submit complete Operation and Maintenance Manuals to Contract Administrators for review and approval 4 weeks prior to application for Substantial Performance of Work.
- .3 Compile copies in sets, each set placed in 216 mm x 280 mm size, hard cover, 3-ring binder manuals. Label manuals and arrange information in sections according to material and equipment.
 - .1 Identify each volume with types or printed title "Operating and Maintenance Instructions" with the following information on the cover:
 - a) Title of Project.
 - b) Name of Contractor
 - c) General Subject covered in the specific volume.
 - .2 Each volume to have neatly typewritten table of contents arranged in a systematic order following the specification format and include the following:
 - a) All items that require maintenance information.
 - b) Copies of all shop drawings and product data sheets.
 - c) List of all consultant, contractor, sub-contractors, with their telephone and fax numbers, contract person, and address.
 - d) Copies of all consultant and local authorities inspection reports.
 - e) Copies of all permits.
 - f) Copies of all testing agencies reports and findings.
 - g) Warranties and Guaranties.
 - h) Balance Reports.
 - i) Final Property Survey including area certification.
- .4 Submit all information essential for proper care and maintenance in the form of manufacturer's printed literature amended where necessary to be specific, and supplemented by typewritten sheets where necessary. In addition to other requirements specified, submit:
 - .1 Detailed instructions and recommended materials for cleaning and warnings of detrimental maintenance practices.
 - .2 Detailed instructions for operation and maintenance, adjustment, inspection, lubrication and parts replacement for all mechanically and electrically operated items.
 - .3 Name of manufacturer, supplier, installing and service companies as applicable, and their local representatives, complete with addresses and telephone numbers.
- .5 Manuals must be approved prior to Substantial Performance of Work.
- .6 Terminology used in the various indexed sections of the books shall be consistent.

1.7 AS-BUILT DRAWINGS

- .1 Maintain, as the Work progresses, accurate records of changes to the Work including deviations in runs of concealed services, conduits, pipes, ductwork and equipment location.

- .2 Obtain two sets of white prints and record Work constructed differently than shown on Contract Documents. Record all changes in the Work and transfer to drawings, prior to submission to the Contract Administrator.
- .3 Record the following significant deviations:
 - .1 Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface feature.
 - .2 Location of internal utilities and appurtenances which are concealed in construction, referenced to visible and accessible features of structure.
 - .3 Field changes of dimensions.
 - .4 Other significant deviations which are concealed in construction and cannot be identified by visual inspection.
- .4 Mechanical and Electrical as-built drawings shall show the dimensioned location of all buried piping and valves. See Division 15 and 16 for additional requirements.
- .5 Be responsible for the accuracy of changes, additions or deletions recorded on these drawings.
- .6 Make records in a neat and legibly printed manner with a non-smudging medium.
- .7 Identify each drawing as "As-Built Copy", maintain drawings in good condition, do not use them for construction purposes, and make available to Contract Administrator at all times.
- .8 Maintain As-Built drawings in a state current to project. Such state shall be considered a condition precedent for validation of applications for payment. The Contract Administrator's visual inspection shall constitute proof that As-Built drawings are current.
- .9 Transfer As-Built drawing to electronic drawings in AutoCad format and submit as electronic disc and 2 sets of prints to Contract Administrator for review before application for Substantial Performance of Work.
- .10 Submit completed As-Built drawings to municipality, if requested.
- .11 Submit to City two (2) complete sets of reviewed hard copy "As-Built" drawings, one (1) copy of electronic "As-Built" drawing disc, and two (2) complete sets of specifications and manuals.

2.0 PRODUCTS

Not Used

3.0 EXECUTION

Not Used

- END OF SECTION -

1.0 GENERAL

1.1 STANDARDS

- .1 Except as otherwise indicated on the drawings or specified herein, the industry standards referred to in the specifications shall apply to all work under this Contract and all such standards shall refer only to the current editions of the industry standards, unless otherwise indicated. Where requirements indicated on the drawings or specified herein, differ from the industry standards, the more stringent requirements shall govern.
- .2 Wherever in this specification it is specified that products and installation methods shall meet approval of jurisdictional authorities, Underwriters, the City, Contract Administrator or others, obtain such approval in writing.
- .3 Where specifications list a standard, the product and workmanship as applicable shall meet or exceed the specified requirements of that standard.
- .4 Where specifications list a standard and a product is named, the quality level of the product, as tested to the standard, shall govern.

1.2 ACCESS TO THE WORK

- .1 The City and the Contract Administrator or their authorized agents or representatives shall at all times have access to the Work whether on or off site. If parts of the Work are in preparation at locations other than the place of Work, the Owner, and the Contract Administrator or their authorized agents or representatives shall be given access to such Work wherever it is in progress.
- .2 If the Contractor covers or permits to be covered, Work that has been designated for special tests, inspections, reviews or approvals before such special tests, inspections, reviews or approvals are made, given or completed, he shall, if so directed, uncover such Work, have the inspections or tests satisfactorily completed and make good such Work at his own expense.
- .3 Suspect Work
 - .1 The Contract Administrator may order any part or parts of the Work to be specially examined should he believe that such Work is not in accordance with the requirements of the Contract Documents. If, upon examination such Work is found not in accordance with the requirements of the Contract Documents, the Contractor shall correct such Work and pay the costs of examination and correction. If such Work is found in accordance with the requirements of the Contract Documents, the Owner shall pay the cost of examination and replacement.
 - .2 The Contractor shall furnish promptly to the Contract Administrator, two copies of Certificates and Inspection Reports relating to the Work.

1.3 WORKMANSHIP

- .1 Execute Work in accordance with the highest quality standards of the industry by skilled workers qualified in their respective trades, under the supervision of a competent foreman.
- .2 Use, install and handle manufactured materials, equipment and appliances in accordance with manufacturer's directions and instructions.

1.4 PROVISIONS FOR INSPECTION AND TESTING

- .1 Provide labour and facilities to:
 - .1 Provide access to Work to be inspected and tested, including scaffolding and stage equipment if required.
 - .2 Facilitate inspections and tests.
 - .3 Make good Work disturbed by inspection and test.
 - .4 Supply samples of all materials and assembly mock-ups as required for testing. Label and identify samples as required. Protect and properly orient approved samples in location convenient for comparison purposes. Provide adequate lighting for samples. Package or crate samples and deliver to a single location as directed.
 - .5 Provide storage on Site for laboratory's exclusive use to store equipment and cure test samples.
 - .6 If test results fail to meet requirements of the Contract, arrange for retesting.
 - .7 Tests required by authorities having jurisdiction shall be arranged by the Contractor and witnessed by the Contract Administrator.
- .2 If Work is designated for tests, inspections, review or approvals in the Contract Documents, or by the Contract Administrator's instructions, or the laws or ordinances of the place of the Work, the Contractor shall give the Contract Administrator at least 24 hours (or as called for in the trade sections) notice requesting inspection. Inspection by the Contract Administrator shall be made promptly. The Contractor shall arrange for inspections by other authorities and shall give the Contract Administrator timely notice of the date and time.
- .3 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.
- .4 The Contractor is responsible to paid for, arrange and co-ordinate the following inspection and testing. Testing agency retained by the Contractor shall be approved by the City and Contract Administrator:
 - .1 Inspection, testing and certification of concrete.
 - .2 Inspection, testing and certification of compaction required.
 - .3 All testing and certifications specified under Division 15 and 16.
- .5 The Contractor shall not rely solely on this information relative to his own quality control measures, and it shall not relieve the Contractor from his responsibility under the Contract for the proper conduct of the Work and for conducting whatever tests are necessary to be certain that the Work is conducted in accordance with the Contract.

1.5 REJECTED WORK

- .1 Defective work, whether the result of poor workmanship, use of defective materials or products, or damage through carelessness or other act or omission on the part of the Contractor and whether incorporated in the Work or not, which has been rejected by the Contract Administrator as failing to conform to the Contract Documents, shall be removed promptly from the place of the Work by the Contractor and replaced or re-executed promptly in accordance with the Contract Documents at the Contractor's expense.

- .2 Other work destroyed or damaged by such removals or replacements shall be made good promptly at the Contractor's expense.
- .3 If, in the opinion of the Contract Administrator, it is not expedient to correct defective Work or Work not performed in accordance with the Contract Documents, the Owner may deduct from the Contract Price the difference in value between the Work as performed and that called for by the Contract Documents, the amount of which will be determined in the first instance by the Contract Administrator.
- .4 The Contractor will be held responsible for delays caused by rejected work.

1.6 **MOCK-UP**

- .1 Where mock-up is specified, provide mock-up at location directed and repeat until approval has been obtained.
- .2 Make mock-up representative of actual installation including workmanship, backing material, adjacent construction, finishes and colours.
- .3 Unless noted otherwise, mock-ups may become part of the finished installation, on their being approved.

1.7 **WARRANTIES REQUIRED UNDER THE CONTRACT**

- .1 Upon completion of all of the Work and prior to the release of the retention monies to the Contractor, the Contractor shall provide the Owner with written warranties as called for in the trade sections and Section 01700. Where extended warranty is not called for, the Standard Contractor Warranty as per the General Conditions of the Contract shall apply.
- .2 All warranties shall be dated to commence from the date of acceptance of the Work having been totally completed by the Owner. See also Section 01700.

2.0 **PRODUCTS**

Not Used

3.0 **EXECUTION**

Not Used

- END OF SECTION -

1.0 TEMPORARY UTILITIES

1.1 POWER

- .1 The Contractor will supply temporary power service to job site and in the building, suitable for all construction requirements and in accordance with governing regulations and ordinances.
- .2 Extend temporary power for installation, testing and operation of equipment until permanent hook-up, or total completion date.
- .3 Provide temporary power panels and temporary connections for portable electric tools and lighting. Run temporary wiring in a safe manner in accordance with local Electrical Code requirements.
- .4 Remove temporary power equipment and wiring on completion of the Work.

1.2 TEMPORARY LIGHTING

- .1 Provide and maintain temporary wiring and lighting throughout the project as required for construction and safety purposes. Provide approved extension cords as required. Provide 860 lux minimum lighting level at surfaces for finishing trades.
- .2 Operate permanent lighting system only if approved. Be responsible for care and maintenance of system during construction and hand it over to the City in first-class operation condition, certified as new, upon completion. Clean fixtures and replace light bulbs before completion of the Work if permanent lighting units are used.

1.3 TEMPORARY HEATING

- .1 Provide and pay all costs for temporary heat, heating equipment, fuel, attendance and enclosures to protect the Work, keep the Work adequately warm and sheltered from the elements if required.
- .2 Maintain the temperature of building and temporary enclosures at not less than 15C and at higher temperatures as may be necessary to provide a suitable environment for the Work to be done without delay. Provide thermometers and record temperature inside and exterior to the building envelope each day.
- .3 Keep temporary heating ready for operation from September 15th to May 15th.
- .4 Use radiant heat or forced warm air type heaters. Operate in well ventilated location and vented to exterior. If used in areas of completed building, provide protection of floors and adjacent surfaces to prevent damage. Distribute heat uniformly to avoid hot or cold areas and avoid excessive drying.
- .5 The permanent heating system may be used if approved by the City for temporary heating of the building when the building is permanently enclosed and the system has been inspected, tested, chemically treated and is complete with all safety equipment installed and operating properly. At the completion of the Work, the equipment and system shall be thoroughly cleaned and all components serviced, worn and damaged components replaced so that all warranties on the equipment and system so used remain in force for a minimum of one year from date of issuance of the Final Statement of completion, unless specifically noted otherwise in the construction documents.

- .6 The permanent heating system shall be used and properly maintained in accordance with operating procedures prescribed by the Contract Administrator and all damage prior to official acceptance of the building shall be made good at no additional cost. The heating equipment and system shall be turned over to the City thoroughly cleaned and in perfect operating condition.
- .7 Do not use air distribution system until permanent or temporary filters are in place. Filter air distribution system to prevent dust and dirt from entering units via return air. Replace or clean filters frequently during construction to minimize entry of dirt. Clean (if cleanable) or replace filters before turning system over to the City.
- .8 Permanent building air conditioning system shall be connected and operational (during summer months) while work is in progress.

1.4 **WATER SUPPLY**

- .1 The Contractor will provide temporary water source. Provide distribution as necessary for the Work.

1.5 **CONVENIENCES**

- .1 Supply, install and maintain in sanitary condition, an adequate number of portable, weatherproof, toilet conveniences of the chemical type. Regularly service for the use of all persons on the work. Provide conveniences to the approval of health authorities and keep padlocked during off hours. Post notices regarding the use of conveniences provided.

2.0 **TEMPORARY CONTROLS**

2.1 **CLEANING, REMOVAL OF RUBBISH**

- .1 Maintain the work site in a clean, safe tidy condition, free from the accumulation of waste products and debris.
- .2 Keep building and site free from accumulations of excess materials. Remove oily rags and waste from premises at close of each day, or more often if required.
- .3 Upon attaining Substantial Performance of the Work, the Contractor shall remove his surplus products, tools, construction machinery and equipment not required for the performance of the remaining work.
- .4 Provide refuse containers at convenient locations. Be responsible for cleaning up and removing rubbish into the refuse containers daily.
- .5 Suitably prepare and vacuum clean areas and surfaces before finishing work commences. Take care to settle and minimize dust before flooring, painting and other finishing work begins. Use commercial type vacuum cleaners.

2.2 **POLLUTION CONTROL (Provincial Law)**

- .1 Comply with the regulations of authorities having jurisdiction regarding environmental pollution.
- .2 The Contractor shall not dispose of waste solvents, petroleum products, toxic chemicals or solutions in the municipal drainage system, dump or bury garbage on the construction site.

This type of waste must be taken to an approved disposal facility. Dispose of all garbage regularly and in accordance with requirements of authorities having jurisdiction.

2.3 PROTECTION OF BUILDING FINISHES

- .1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.
- .2 Provide necessary screens, covers, and hoardings.
- .3 Assume responsibility for damage incurred due to lack of or improper protection.

2.4 FIRES

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

3.0 TRAFFIC REGULATIONS

3.1 PERMITS

- .1 Obtain, and if necessary, pay for permit for use and maintenance of local streets, including cleaning of streets (including deposit, if necessary).

3.2 TEMPORARY SERVICE ACCESS

- .1 Confine construction traffic, work, parking, storage, etc., to the designated areas.
- .2 Upon completion, restore areas to original condition, unless otherwise specified.

3.3 PARKING

- .1 Parking to be determined at start of project and in designated areas only.
- .2 Repair streets, drives, curbs, sidewalks, poles, etc., when damage has been caused by the performance of the Work by the Contractor and leave them in as good a condition, after completion of the Work, as before operation started.
- .3 Do not block any streets, walks or drives nor allow their use for parking by any personnel or visitor. The Contractor shall at all times minimize all impediments to traffic movement and the temporary closing of streets.

4.0 FIELD OFFICES AND SHEDS

4.1 TEMPORARY OFFICE

- .1 At commencement of Work erect where directed by the City, and maintain temporary office of suitable size and quality to accommodate working space for Contractor's field personnel and job meetings.
 - .1 Equip office with suitable benches and table for examination of drawings.
 - .2 Make office artificially lighted, to minimum 80 foot candles at desk height.
 - .3 Heat office when necessary. (Minimum 20C during working hours).
 - .4 Keep office clean and orderly and make available for use of the City, his representative, and the Contract Administrator.
 - .5 Do not use office for storage of materials.

- .6 Move temporary office when directed and restore the site area to its original condition as required after final removal.
 - .2 Do not use the existing nor new buildings as an office unless approved by the City and by prior arrangement.
- 4.2 **STORAGE SHEDS**
- .1 In the designated work site area approved by the City, erect as required, weather tight storage sheds, with floors raised above ground, for storage of materials, tools, equipment.
 - .2 Do not use the existing nor new buildings for storage of materials, unless approved by the City.
 - .3 Move temporary storage sheds when directed and restore the site area to its original condition as required after final removal.
- 4.3 **SITE HOARDINGS**
- .1 Maintain and pay municipal charges as required for site hoardings. Provide hoarding or fencing as may be required by local codes and requirements and to prevent injury.
- 5.0 **CONSTRUCTION AIDS**
- 5.1 **SCAFFOLDING**
- .1 Erect scaffolding independent of finished surfaces. Use scaffolding in such a manner as to interfere as little as possible with other sections. When not in use, move scaffolding as necessary to permit installation of other work. Construct and maintain scaffolding in a rigid, secure and safe manner.
 - .2 Remove scissor lift and scaffolding promptly when no longer required.
- 5.2 **HOISTING**
- .1 Supply, install and maintain conveying equipment such as cranes, hoists, etc., as required for the proper execution of the Work. Comply with governing codes.
 - .2 Assume complete responsibility for construction, strength, placing, anchoring, and operation of such equipment to ensure that any load carried thereon can be safely supported.
 - .3 Make the use of accessory equipment and conveying systems available to trades as required.
 - .4 Promptly remove such equipment when no longer required.

- END OF SECTION -

1.0 SECURITY

1.1 PROTECTION OF WORK

- .1 Protect the Work and make good at no cost to the City, damage to the Work until the building has been completed and accepted by the City.
- .2 Make every temporary support as strong as permanent supports.
- .3 Refer to Section 01500 Construction Facilities for additional protection requirements.

1.2 SECURITY

- .1 Locking premises shall be as per established measures approved by security arrangements to be made with the City. Lock storage enclosures after working hours when work is not in progress. Fit doors with temporary lock and key. Close all openings securely.

1.3 WATCHMAN

- .1 Employ competent persons for guarding Work at all times outside of regular working hours (including nights, Sundays and holidays), until area is turned over to the City. In case of strike, or hoarding removal, provide watchman on 24-hour-a-day basis.
- .2 Be responsible for costs, damages, loss and public liability claims resulting from failure to comply with above.

1.4 FLOOR FINISH PROTECTION

- .1 Protect trowelled concrete subfloors and finished flooring from damage. Take special measures when moving heavy loads or equipment on them.
- .2 Keep all surfaces dry and free from oil, grease and other foreign matter which may be detrimental to the finished work.
- .3 After finished floor surfaces have been installed, prevent damage and staining by erecting barriers, signs, or provide supervision to ensure that there is no unnecessary traffic or operations performed over floors which could lead to damage.
- .4 Where construction operations must be performed or traffic routed over floors during balance of construction period, lay 6 mm minimum plywood coverings over surface in such areas. Damage to finished floors shall be made good at no cost to the City. Do not use flammable paper for protective covering.

1.5 ROOF PROTECTION

- .1 Do not permit construction traffic over completed roofing or unprotected waterproofing.

1.6 PLASTIC FOAM INSULATION

- .1 Protect exposed plastic foam thermal insulation from heat and flame, especially adhesives which have not cured.
- .2 Store plastic foam board stock in limited quantities in a location free from ignition hazard. Do not stack more than 2400 mm high. Provide adequate aisle space for access between stacks. Dispose of waste plastic foam daily.

2.0 WEATHER PROTECTION

2.1 ENCLOSURES

- .1 Provide and set up in all openings, temporary enclosing partitions and doors to keep out the weather with fastenings inside only.
- .2 Provide and install temporary weatherproof enclosures for parts of building as required for protection against elements and to maintain temperatures required and specified in respective sections. Design enclosures to withstand prevailing winds. Structural frame of building may be used, within limits of loads for which they are designed for support of temporary enclosures. Keep surfaces of temporary enclosures free of snow and ice to avoid any undue loads being transferred to structural frame.

2.2 LOW TEMPERATURE PROTECTION

- .1 Provide adequate frost and low temperature protection, including heating, for Work in progress, and finished Work.
- .2 Provide heat for materials affected by cold both in storage and during construction.
- .3 Replace Work or materials damaged by frost at no cost to the City.

2.3 DRAINAGE

- .1 Protect building from damage by rainwater at exterior wall where new windows are to be installed into existing wall. Provide equipment, temporary drainage and enclosures required for this protection.

3.0 TEMPORARY FIRE PROTECTION

3.1 FIRE PROTECTION

- .1 Provide and maintain in working order, suitable, ULC labelled, fire extinguishers and temporary standpipe systems, as the Work progresses, locate to approval of insurance company and authorities having jurisdiction.

Coordinate sprinkler shutdowns in order to provide adequate life safety at all times.

- .2 Remove temporary fire extinguishers upon completion of the Work.

3.2 FLAMMABLE SOLVENTS

- .1 Where products containing flammable solvents are being used, take the following precautions against fire:
 - .1 Ensure compliance with contract requirements and local laws concerning construction safety and fire prevention.
 - .2 Provide suitable fire extinguishing equipment in the work area.
 - .3 Post "No Smoking" and "Flammable Solvent" signs prominently in the area where materials are being applied. Leave these signs in place until coatings or adhesives containing flammable solvents are cured. No smoking is permitted in the store.
 - .4 Provide ventilation to prevent accumulation of solvent vapours.

- .5 Do not permit welding in areas where materials containing flammable solvents are being applied.
- .6 Do not operate spark producing electrical equipment, gas appliances or oil-burning equipment in areas where solvent vapours could be ignited.

4.0 BARRIERS, GUARD RAILS

- .1 Provide hoardings, railings, barriers, covered walkways with lighting, as required for protection of the workers, as required by law and by authorities having jurisdiction. Erect railings around shafts, stairwells and around perimeter of floors not permanently enclosed. Equip the foregoing with warning lights and signs as required.
- .2 Alter, remove and relocate or replace hoardings, barriers as required by authorities having jurisdiction.

- END OF SECTION -

1.0 PRODUCTS AND MATERIALS

- 1.1 Except where specifically mentioned, use Canadian manufactured materials to execute this Contract if the required quality is obtainable.
- 1.2 Materials, products and equipment are specifically described and named in the specifications to establish a standard of materials and workmanship.
- .1 Manufactured materials and equipment which are specified by their proprietary names or by part or catalogue numbers shall be provided.
 - .2 Where a number of proprietary materials are specified for one use, the Contractor shall select one of the materials specified.
 - .3 No substitution for materials will be allowed unless written approval of alternative material or equipment has been obtained from the Consultant prior to signing the Contract.
 - .4 Changes to manufacturer's products without prior notification in sufficient time to evaluate the effects of such changes prior to tender closing date, will not be accepted.
 - .5 Where a manufacturer's standard product line does not fully meet specified requirements in every characteristic, it is intended that the manufacturer will upgrade his product to the required standard to qualify as a supplier or will refrain from bidding.
- 1.3 Products which are not specified shall be of a quality best suited to the purpose required and their use subject to the approval of the Consultant.
- 1.4 Defective material or products whenever found at any time prior to the final acceptance of the Work will be rejected regardless of previous inspection. Inspection by the Consultant will not relieve the Contractor from responsibility, but it is a precaution against oversight or error.

2.0 MANUFACTURERS' INSTRUCTIONS

- 2.1 Apply, install, connect, erect, use, clean and condition all manufactured articles, materials and equipment in accordance with the manufacturer's written instructions unless otherwise specified.
- 2.2 File one copy of manufacturer's written instructions for products used in the Work at the site office.

3.0 DELIVERY, HANDLING AND STORAGE OF MATERIALS

- 3.1 Deliver, store and handle materials to exclude foreign material, and to prevent soiling and increase of moisture content. Prevent damage to material, structure and finishes.
- .1 Avoid excessive loading stresses in materials.
 - .2 Deliver packaged products, and store until used, in original unopened wrapping or containers, with manufacturer's seals and labels intact.
 - .1 Do not deliver plastic materials to site in advance of installation time, and avoid exposure of plastic materials to sunlight; complete installation and concealment as rapidly as possible to each area of Work.
 - .3 Label packaged products to describe contents, quantity and other information as specified. Do not remove labels.

- .4 Store materials which will be damaged by weather in suitable dry accommodation. Provide heat and ventilation as required to maintain temperatures at 15C minimum and as recommended by material manufacturer.
 - .1 Store highly combustible or volatile materials separately from other materials and under no circumstances within the building. Protect against open flame and other fire hazards. Limit volume of supply on the site to minimum required for one day's operation. Ventilate enclosure as required. Store as prescribed by authorities having jurisdiction.
 - .2 Do not store material and equipment detrimental to finished surfaces within areas of the building where finishing has commenced or has been completed.
 - .3 Handle and store materials in accordance with manufacturer's and supplier's recommendations. Remove and replace damaged materials.
 - .4 Store steel on racks or skids and covered to protect it from dirt, water, and damage. Maintain steel in its fabricated form.
 - .5 Store premixed cementitious materials, lime, sand and aggregate on platforms so as to avoid inclusion of foreign materials, and cover adequately with waterproof coverings.
 - .6 Deliver and store masonry units at the site on pallets, adequately cover with waterproof coverings.
 - .7 Provide flat, solid support for all sheet material during storage.
 - .8 Store paints and mix in a room assigned for this purpose. This room shall be kept under lock and key. Oily rags and any other combustible materials shall be removed every night. Every precaution shall be taken to prevent spontaneous combustion.
- .5 Store and handle flammable liquids and other hazardous materials in approved safety containers and as otherwise prescribed by authorities having jurisdiction.
- .6 Reject and remove damaged products and Work from the premises immediately.
- 3.2 If necessary, schedule delivery of materials so that they may be installed directly in place. At all times minimize all impediments to traffic movement and the temporary closing of accesses and streets.

4.0 FASTENINGS

- 4.1 Supply all fastenings, anchors and accessories required for fabrication and installation of the Work.
- 4.2 Attach and fasten work and components in place in safe, positive, permanent, secure manner so that they cannot work loose or fall or shift out of position as a result of vibration or other causes which may occur in the normal use of the building.
- 4.3 Metal fastenings shall be of the same material as the metal component they are anchoring or of a metal which will not set up an electrolytic action which would cause damage to the fastening or metal component under moist conditions.

- 4.4 Make exposed metal fastenings and accessories of the same texture, colour and finish as base metal on which they occur.
 - .1 Use stainless steel (Type 300) fasteners where exterior to the building's air barrier.
 - .2 Use EPDM washers where weather tightness is required.
- 4.5 Use cast-in-place inserts whenever possible for anchorage to concrete; where this is not possible, use approved self-drilling anchors recommended for the specific job conditions.
- 4.6 Do not exceed 25% of the safe working load stated by the manufacturer as average test loads for the anchor. Receive instruction from the anchor manufacturer regarding correct installation methods and tools, and comply with these requirements. The Consultant may at any time request the random load testing of anchors. Arrange and conduct these tests as requested without additional charge.
- 4.7 Provide anchors and fasteners required to secure items to the structure, strength and size of anchors and fasteners to suit substrate into which they are embedded and load imposed on them. Provide nuts, washers, non-slip washers and spacers as required.
 - .1 Select fastener heads to provide an inconspicuous appearance recessed where possible.
- 4.8 Conceal fastenings wherever possible. Keep exposed fastenings to a minimum, evenly spaced and laid out symmetrically.
- 4.9 Supply adequate instructions and templates and supervise installation where fastenings or accessories are required to be built into work of other trades.
- 4.10 Explosive actuated fastenings shall not be used on the Work.

5.0 FIELD MEASUREMENT

- 5.1 Take field measurements prior to preparation of shop drawings and fabrication, allow for trimming and fitting where field measurements can not be taken.

6.0 SHOP ASSEMBLY

- 6.1 Preassemble and inspect in factory to ensure coordinated, well-fitted installation. Disassemble for shipping and handling after clearly marking units to permit coordinated assembly.

- END OF SECTION -

1.0 GENERAL

1.1 REFERENCE

- .1 Arrange for, conduct and document take-over procedure, refer to General, Supplementary Conditions and Submittal.

1.2 FINAL CLEANING

- .1 Upon completion of the Work, and immediately prior to the final inspection, thoroughly clean all components of the building and premises where work has taken place and ensure is ready for continued occupancy.
- .2 Use appropriate apparatus and cleaning materials. Clean in accordance with the manufacturer's and supplier's directions.
- .3 Temporary protection and facilities shall be removed and defects in materials and workmanship, noted after the removal of such temporary protection, shall be made good.
- .4 Areas shall be cleaned such that all dust, dirt, stains and other disfigurement shall be removed. Clean glass and hardware.
- .5 Remove identification labels, dust, dirt, stains, smudges and other foreign matter detrimental to appearance or performance of finished surfaces, mechanical and electrical apparatus and equipment.
- .6 Clean and polish surfaces of hardware, glass, mirrors, plastic laminate, baked enamel, glazed ceramic, stainless steel and non-ferrous metals that have been installed under this contract.
- .7 Remove temporary protective coverings and coatings, temporary labels.
- .8 Remove debris and dust from ducts and plenums, change filters.
- .9 Clean, repair, lubricate and adjust all mechanism and movable parts of apparatus, appliances and equipment installed or modified during this contract, leaving it in new condition and operating properly.
- .10 Cleaning of floors to be scheduled in accordance with specifications for initial cleaning, sealing, waxing and polishing.
- .11 Upon completion of final cleaning, remove cleaning equipment materials and debris from the building and site.

1.3 INSPECTION AND DECLARATION FOR SUBSTANTIAL PERFORMANCE

- .1 Contractor's Inspection: Prior to application for Certificate of Substantial Performance of the Work, carefully inspect the Work and ensure that it is complete, that major and minor construction deficiencies are complete and/or corrected and that the building is clean and in condition for occupancy. Notify the Contract Administrator in writing of satisfactory completion of inspection and request a Contract Administrator's inspection.
- .2 Contract Administrator's Inspection: The Contract Administrators and the Contractor will perform an inspection of the Works. Deficiencies and defects identified by Contract Administrators shall be rectified accordingly.
- .3 Completion: Submit written certification that following have been performed:

- a) Work has been completed and inspected for compliance with Contract Documents.
 - b) Defects have been corrected and deficiencies have been completed.
 - c) Equipment and systems have been tested, adjusted and balanced and are fully operational.
 - d) Certificates required by Fire Commissioner, Utility Companies have been submitted.
 - e) Operation of systems has been demonstrated to the City's personnel.
 - f) Work is complete and ready for Final Inspection.
- .4 Prior to Substantial Performance of the Work submit maintenance/operating manuals, necessary data and operation instructions, evidence of satisfactory results of all necessary tests, warranties, bonds, record and "as-built" drawings (Submittal Section 01330), service and maintenance contracts, spare parts and maintenance materials, receipts for salvage items, etc. and instruct the City's personnel to start-up, tune, operate and maintain all equipment and systems installed. The following shall be 100% complete, to the satisfaction of the City, prior to Certificate of Substantial Performance being issued:
- a) Maintenance/Operating Manuals.
 - b) All record and "as-built" drawings.
 - c) All keys for equipment and building as specified, including related keying information and keying charts.
 - d) All test reports for mechanical and electrical systems, as specified in Divisions 15 and 16.
 - e) Equipment and systems operating instructions and orientation for the City's personnel, as specified in Section 01700 - Contract Closeout.
 - f) All spare parts and maintenance materials have been turned over to the City.
 - g) Written agreement on Service/Maintenance Contracts identified in project specifications.
 - h) Warranty and Bond Certificates.
 - i) Declaration from the Contractor in accordance with the Builders' Liens Act and Statutory Declarations.
 - j) Letter of Clearance from Workers Compensation Board.
- .5 Final Inspection: When the items noted above are complete, request a final inspection of the Work by the City, Contract Administrators and the Contractor. If Work is deemed incomplete by the Contract Administrators, complete the outstanding items and request a re-inspection. Should status of Work require re-inspection by the City and Contract Administrators due to failure of Work to comply with Contractor's claims for inspection, the City will deduct amount of Contract Administrators' compensation for re-inspection services from payment to Contractor.
- .6 Declaration of Substantial Performance: When the Contract Administrator considers that all deficiencies have been corrected and that it appears that requirements of the Contract have been performed, make application for Certificate of Substantial Performance of the Work. Refer to General Conditions GC 5.4 - Substantial Performance of the Work.
- .7 Commencement of Lien and Warranty Periods: The date of Substantial Performance as stated on the Certificate of Substantial Performance shall be the date for commencement for the warranty period and commencement of the lien period.

1.4 INSPECTION FOR TOTAL PERFORMANCE

- .1 When the Contractor is satisfied that the entire Work is complete, and after making his own inspection, he shall make a written request for a final inspection by the Contract Administrator, who in turn shall notify the City. This inspection shall be carried out and completed within ten (10) calendar days of the request, and shall constitute the inspection precedent to the issuance of the Final Certificate for Payment.
- .2 The final inspection team shall include:
 - a) The Contract Administrator and other Contract Administrators as he may require.
 - b) The Contractor and any Subcontractors deemed necessary by the Contractor.
 - c) The City, represented by designated members of the Winnipeg Transit.
- .3 If there are any defects or deficiencies determined by this inspection, they shall be listed by the Contract Administrators. The Contractor shall complete the outstanding items and request a re-inspection by Contract Administrator following his own inspection to take place within seven (7) calendar days from date of request.
- .4 Should status of Work require re-inspection by Contract Administrator due to failure of Work to comply with Contractor's claims for inspection, the City will deduct amount of compensation for re-inspection services from payment to Contractor.
- .5 The Contractor shall thereafter submit his invoice for Final Payment.

1.5 EQUIPMENT DEMONSTRATION

- .1 Arrange and include all costs necessary for the demonstration to the City's operational and maintenance staff of all mechanical, electrical and electronic equipment in the Contract.
- .2 Arrange demonstrations at a time convenient to Austin Credit Union and as soon as possible after acceptance of the Work at Substantial Performance.
- .3 Refer to Divisions 15 and 16 for detailed procedures of Mechanical and Electrical sections and trial usage.

1.6 COMMISSIONING

- .1 The City will commission structural, architectural as well as mechanical and electrical systems and equipment after Substantial Performance.
- .2 Repair any defects or deficiencies found during commissioning process.
- .3 If Contractor fails to correct defects or deficiencies within a reasonable time agreeable to the City and Contractor, the City will complete the work and charge the Contractor for all costs incurred.

1.7 WARRANTIES

- .1 The following list of required warranty periods is for convenience only and is not necessarily complete.

<u>Section</u>	<u>Item</u>	<u>Warranty Period in Years</u>
07900	Sealants	2 yrs
07900	Sealants (Dow Silicone only)	20 yrs
08400	Windows	5 yrs
08880	Glass Block Windows	10 yrs

09657	Resilient Flooring	15 yrs
10001	Manufactured Specialities	10 yrs

Division 15 and 16 - as noted in specifications.

- .2 Submit warranties for all items noted in the Contract Documents including those of Subcontractors, prior to application for final payment.
- .3 Warranties shall be in a form acceptable to the Contract Administrator and the City.
- .4 Notwithstanding the provisions of this article, if any statute in force in the province where the Work is being performed creates a more extended liability for faulty materials or workmanship, then the provisions of such statute shall apply. Warranties shall not be deemed to restrict any liability of the Contractor arising out of an applicable law.
- .5 Warranties shall include the prompt remedy of defects upon written notification from the City that the defects exist. Remedy shall include labour, materials, equipment and services required to make good defective areas of the Work in the case of factory fabricated components, to supply and install new components. Failure to do so will make Contractor financially responsible to the City for repairs (material and labour) by qualified personnel. Emergency or other repairs by qualified personnel under the direction of the City shall not nullify the warranty.
- .6 Warranties shall commence at date of Substantial Performance of the Work unless mutually agreed between the City and Contractor, or unless specified otherwise for certain specific items.
- .7 The Contractor shall provide at exactly 11 months after the date of Total Performance, a year end warranty inspection to be held with the City, the Contract Administrators and the Contractor present. Contractor shall promptly remedy defects due to faulty materials or workmanship of the Work of Contract. Contractor shall remedy defects (s) within time period agreed to between the City and Contractor. Failure to do so will make Contractor financially responsible to the City for repairs (material and labour) by qualified personnel. Emergency or other repairs by qualified personnel under the direction of the City shall not nullify the warranty.

2.0 PRODUCTS

Not Used

3.0 EXECUTION

Not Used

- END OF SECTION -