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1. GENERAL

1.1 Architect, Consultant or Engineer

- .1 Wherever the word Architect, Consultant or Engineer is used in the construction specifications, it shall be replaced with Contract Administrator as defined in C1.1(o) and C5 of General Conditions for Construction Contracts and D1 of Supplemental Conditions.

1.2 Codes and Standards

- .1 Execute Work in accordance with the latest editions and supplements of the applicable regulations and standards listed below and as stated in the specifications.
 - .1 Manitoba Building Code
 - .2 Manitoba Fire Code
 - .3 Federal, provincial and Municipal government laws, rules, ordinances and codes, where applicable
 - .4 Refer to General Conditions for Construction Contracts
- .2 Where specified standards are not dated, conform to the latest issue of specified standard, amended and revised as of the date for receipt of bids
- .3 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 project specifications.
- .4 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.
- .5 Unless specified otherwise, the Contractor shall, at his own expense, obtain all required permits and certificates of inspection and approval from proper authorities.

1.3 Construction Safety

- .1 Observe and enforce all construction safety measures required by the Manitoba Building Code, Worker's Compensation Board, Municipal Statute or By-Laws.
- .2 In the event of conflict between any provisions of above authorities, the most restrictive provision shall apply.
- .3 During winter construction, when combustion type space heaters are employed, provide adequate ventilation for safety of workers.
- .4 The Contractor shall be registered with the Workers Compensation Board of Manitoba and shall provide and maintain workers compensation coverage throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

1.4 Layout of the Work

- .1 Provide all devices required and assume full responsibility for and execute complete layout of the Work to main lines and levels in relation to designated reference points and benchmarks. Protect all markings, benchmarks, and monuments from movement or destruction.
- .2 Supply such devices as straight edges and templates required to facilitate Contract Administrator's review of Work.

1.5 Definition of Trades

- .1 For convenience of reference only, the specifications are separated into the internationally recognized titled/trade sections. (See table of contents). Sections are identified by title and six-digit number system.
- .2 The Contractor shall decide who supplies and installs required materials or equipment and extras will not be considered on the grounds of differences in interpretation of the Project Documents as to who performs what Works.
- .3 The Contractor is totally responsible as to who provides required materials or articles and Work.
- .4 The Contractors are to allow for continued access throughout the construction period and ensuring the facility entering and exiting is maintained to the approval of the Local Authorities having Jurisdiction, local by-laws, and Work Place Safety and Health Policies. This will also be applicable for parking lot accesses and other such requirements to assist the City in maintaining normal operations.
- .5 Generally, construction activities shall be restricted to the Work areas as defined. Where Work must proceed outside of designated Work areas, all scheduling shall be arranged with the Contract Administrator prior to commencement of such Work. The Contractor is to submit a Safety Access Plan as well as a Detailed Site Co-ordination Plan.
- .6 The Contractor shall provide a Construction Schedule for each individual sequence of Work indicating commencement and completion dates for each sequence. The Contractor shall be aware that Substantial performance under the Lien Act applies to the Total Contract and not to the completion and occupancy of the individual Sequence of the Work.
- .8 The Contractor shall submit as-built drawings for each sequence of Work at completion of each sequence.

1.6 Use of Site and Premises

- .1 The Contractor's use of premises, Site access and construction activities are limited to those areas as defined on the drawings and as designated by City of Winnipeg personnel.
- .2 Construction personnel must use only designated entrances for access to Work areas, delivery of materials and/or equipment and removal of construction debris.
- .3 For security reasons, all interior Work in basement will be limited to the facility's hours of operation (8:30 a.m. to 4:30 p.m. Monday to Friday excluding holidays). No after-hours interior Work in basement will be permitted. Work in exterior parkade levels will not be restricted.
- .4 Restrict equipment, Work and workers to designated areas and established routes to and from Work areas.
- .5 Storage of construction materials, tools, equipment, etc. in areas outside designated Work areas is not permitted.
- .6 The Contractor will be responsible to provide temporary sanitary facilities for personnel throughout the project duration. Building washrooms will not be available for use by the Contractor.
- .7 If required, obtain and pay for use of off-Site storage or Work areas needed for operations or for delivered equipment or materials not required immediately on the premises.
- .8 Keep all fire lanes, egress, and access routes clear at all times.
- .9 Parking restrictions may be applied and on Site parking may be allowed at the City of Winnipeg's discretion.

1.7 Occupancy of Work Areas by the City of Winnipeg

- .1 The City of Winnipeg reserves the right to enter and occupy Work areas in whole or in part before completion of the Contract, provided that, in the opinion of the Contract Administrator, such entry and occupancy do not prevent or interfere with the Contractor in completion of the Contract.
- .2 Such entry and occupation by the City of Winnipeg are not to be considered as acceptance of the Work and will not relieve the Contractor from responsibility to complete the Contract.

1.8 Glass Breakage

- .1 Contractors shall be responsible for all glass that is broken, scratched or cracked during the execution of the Work and shall replace such glass at their own expense.

1.9 Cleanup and Final Cleaning of the Work

- .1 The contractor shall maintain the Site and the Work in a tidy condition and free from the accumulation of waste products and debris. Upon attaining Substantial Performance of the Work, the Contractor shall remove any products, tools, construction machinery and equipment not required for the performance of the remaining Work. He shall also remove waste products and debris, and clean for suitable occupancy, unless otherwise specified.
- .2 Total Performance of the Work shall not be attained until the Contractor has cleaned up the Site and has removed all plant and surplus products, tools, construction materials and equipment. The contractor shall also have removed waste products and debris.

END OF SECTION

1. GENERAL

1.1 Section Includes

- .1 Shop drawings and product data

1.2 Related Sections

- .1 Quality Control Section 01 45 00
- .2 Closeout Submittals Section 01 78 10

1.3 Administrative

- .1 Submit to Contract Administrator submittals listed for review. Submit with reasonable promptness and in orderly sequence so as not to 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.
- .2 Work affected by submittal shall not proceed until review is complete.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units, converted values are acceptable.
- .5 Review submittals prior to submission to Contract Administrator. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and shall be considered rejected.
- .6 Notify Contract Administrator, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are coordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Contract Administrator's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Document is not relieved by Contract Administrator review.
- .10 Keep one reviewed copy of each submission on Site.

1.4 Shop Drawings and Product Data

- .1 Refer to CCDC-2-1994.
- .2 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 Work.
- .3 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.
- .4 Allow 7 days for Contract Administrator's review of each submission.

- .5 Adjustments made on shop drawings by Contract Administrator are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Contract Administrator prior to proceeding with Work.
- .6 Make changes in shop drawings as Contract Administrator may require, consistent with Contract Documents. When resubmitting, notify contract Administrator in writing of any revisions other than those requested.
- .7 Accompany submissions with transmittal letter, containing:
 - .1 Date
 - .2 Project title and number
 - .3 Contractor's name and address
 - .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.
- .8 Submissions shall include:
 - .1 Date and revision dates
 - .2 Project title and number
 - .3 Name and address of:
 - .1 Subtrade
 - .2 Supplier
 - .3 Manufacturer
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details
 - .4 Capacities
 - .5 Performance characteristics
 - .6 Standards
 - .7 Relationship to adjacent Work
- .9 After Contract Administrator's review, distribute copies.
- .10 Submit 6 prints of shop drawings for each requirement requested in specification Sections and as Contract Administrator may reasonably request.
- .11 Submit 6 hardcopy or electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Contract Administrator where shop drawings will not be prepared due to standardized manufacture of product.
- .12 Delete information not applicable to project.
- .13 Supplement standard information to provide details applicable to project.

- .14 If upon review by Contract Administrator, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

2 PRODUCTS

2.1 Not used

- .1 Not Used

3 EXECUTION

3.1 Not used

- .1 Not used

END OF SECTION

1. GENERAL

1.1 MSDS Information

- .1 Contractor must forward material data sheets on all products used in conjunction with the Work.

1.2 W.H.I.M.I.S. Training

- .1 Contractor to provide copies of valid certification/training for all employees (regular or temporary) including all subcontractors (i.e. line painters).

1.3 Safety Protective Clothing/Respirators

- .1 All employees (regular or temporary) of contractor and subcontractors shall wear protective body/eye protections/clothing and respirators in accordance with provincial standards and regulations.
- .2 All individuals involved in the application of any product shall meet all WHIMIS/provincial standards safety/protection requirements at all times.

1.4 Safety Eye/Ear Protection

- .1 All employees (regular or temporary) of contractor and subtrade involved in grinding or demolition Work must at all times wear anti-fogging eye protection or full face shields and ear protection in accordance with provincial standards and regulations.

1.5 Fire Safety

- .1 Fire Extinguishers
 - .1 Contractor must maintain a 10 lb. class C fire extinguisher for each gasoline engine vehicle used on Site and gasoline engine equipment.
- .2 Interior and Exterior Fire Protection and Alarm Systems
 - .1 Fire protection and alarm system will not be:
 - .1 obstructed;
 - .2 shut-off; and
 - .3 left inactive at end of working day or shift without authorization from Fire Chief.
 - .4 Fire hydrants, standpipes and hose systems will not be used for other than fire-fighting purposes.
- .3 Rubbish and Waste Materials
 - .1 Rubbish and waste materials are to be kept to a minimum.
 - .2 Burning of rubbish is prohibited.
 - .3 Removal: Remove all rubbish from Work Site at end of work day or shift or as directed.
 - .4 Storage: Store oily waste in approved receptacles to ensure maximum cleanliness and safety. Deposit greasy or oily rags and materials subject to spontaneous combustion in approved receptacles and remove as required.
- .4 Flammable and Combustible Liquids
 - .1 Handling, storage and use of flammable and combustible liquids are to be governed by the current National Fire Code of Canada.
 - .2 Flammable and combustible liquids such as gasoline, kerosene and naphtha will be kept for ready use in quantities not exceeding 45 litres provided they are stored in approved safety cans bearing Underwriters' Laboratory of Canada or

- Factory Mutual seal of approval. Storage of quantities of flammable and combustible liquids exceeding 45 litres is not permitted.
- .3 Transfer of flammable and combustible liquids is prohibited within buildings or jetties.
 - .4 Transfer of flammable and combustible liquids will not be carried out in vicinity of open flames or any type of heat-producing devices.
 - .5 Flammable liquids having a flash point below 38°C such as naphtha or gasoline will not be used as solvents or cleaning agents.
 - .6 Flammable and combustible waste liquids, for disposal, will be stored in approved containers located in a safe ventilated area. Quantities are to be kept to a minimum and Fire Department is to be notified when disposal is required.
- .5 Hazardous Substances
- .1 Work entailing use of toxic or hazardous materials, chemicals and/or explosives, or otherwise creating hazard to life, safety or health, will be in accordance with National Fire Code of Canada.
 - .2 Where flammable liquids, such as lacquers or urethanes are to be used, proper ventilation will be assured and all sources of ignition are to be eliminated.

2. PRODUCTS

2.1 Not Used

- .1 Not Used

3. EXECUTION

3.1 Not Used

- .1 Not Used

END OF SECTION

1. GENERAL

1.1 Section Includes

- .1 Inspection and testing, administrative and enforcement requirements
- .2 Tests and mix designs
- .3 Mill tests

1.2 Related Sections

- .1 Submittal Procedures Section 01 33 00
- .2 Closeout Submittals Section 01 78 10

1.3 Inspection

- .1 Allow Contract Administrator access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections, or approvals by Contract Administrator instructions, or law of Place of Work.
- .3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such test is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .4 Contract Administrator may order any part of Work to be examined if Work is suspected to not be in accordance with Contract Documents. Correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, Contract Administrator shall pay cost of examination and replacement.

1.4 Independent Inspection Agencies

- .1 Independent Inspection/Testing Agencies may be engaged by Contract Administrator for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by the City.
- .2 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .3 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Contract Administrator at no cost to the City. Contractor to pay costs for retesting and re-inspection.

1.5 Access to Work

- .1 Allow inspection/testing agencies access to Work, off-site manufacturing and fabrication plants.
- .2 Cooperate to provide reasonable facilities for such access.

1.6 Procedures

- .1 Notify appropriate agency and Contract Administrator in advance of requirement for tests, in order that attendance arrangements can be made.
- .2 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.
- .3 Provide labour and facilities to obtain and handle samples and materials on Site. Provide sufficient space to store and cure test samples.

1.7 Rejected Work

- .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Contract Administrator as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- .2 Make good other contractor's Work damaged by such removals or replacements promptly.
- .3 If in the opinion of Contract Administrator it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, the City may deduct from the Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which shall be determined by Contract Administrator.

1.8 Reports

- .1 Submit 2 copies of inspection and test reports to Contract Administrator.
- .2 Provide copies to Sub-trade of Work being inspected or tested or manufacturer or fabricator of material being inspected or tested.

1.9 Tests and Mix Designs

- .1 Furnish test results and mix designs as may be requested.
- .2 The cost of test and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work shall be appraised by Contract Administrator and may be authorized as recoverable.

1.10 Mill Tests

- .1 Submit mill test certificates as required of specification Sections.

2. PRODUCTS

2.1 Not used

- .1 Not used

3. EXECUTION

3.1 Not used

- .1 Not used

END OF SECTION

1. GENERAL

1.1 Work Covered by this Section

- .1 This Section specifies criteria for progressive and final cleaning of the Work.

1.2 Section Includes

- .1 Progressive cleaning.
- .2 Final cleaning.

1.3 Reference Standards

- .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-94, Stipulated Price Contract.

1.4 Project Cleanliness

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by City of Winnipeg or other Contractors.
- .2 Remove waste materials from Site at regularly scheduled times or dispose of as directed by Contract Administrator. Do not burn waste materials on Site.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Provide on-Site containers for collection of waste materials and debris.
- .5 Provide and use clearly marked separate bins for recycling.
- .6 Remove waste material and debris from Site and deposit in waste container at end of each working day.
- .7 Dispose of waste materials and debris off Site.
- .8 Clean interior areas prior to start of finish Work, and maintain areas free of dust and other contaminants during finishing operations.
- .9 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .10 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .11 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .12 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.5 Final Cleaning

- .1 Refer to CCDC 2, GC 3.14.
- .2 When Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .3 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.

- .4 Prior to final review, remove surplus products, tools, construction machinery and equipment.
- .5 Remove waste products and debris other than that caused by City of Winnipeg or other contractors.
- .6 Remove waste materials from Site at regularly scheduled times or dispose of as directed by Contract Administrator. Do not burn waste materials on Site, unless approved by Contract Administrator.
- .7 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .8 Remove stains, spots, marks and dirt from electrical and mechanical fixtures, walls, and floors.
- .9 Clean lighting reflectors, lenses, and other lighting surfaces.
- .10 Power wash areas of parking levels as requested by City of Winnipeg.
- .11 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
- .12 Remove dirt and other disfiguration from exterior surfaces.
- .13 Sweep and wash clean paved areas.
- .14 Clean downspouts, and drainage systems.
- .15 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.
- .16 Clean interior spaces utilized in construction activities. Repair and repaint all damaged areas.

2. PRODUCTS

2.1 Not Used

- .1 Not Used.

3. EXECUTION

3.1 Not Used

- .1 Not Used.

END OF SECTION

1. GENERAL

1.1 Section Includes

- .1 As-built drawings, samples, and specifications
- .2 Product data, materials and finishes, and related information
- .3 Warranties and bonds
- .4 Final Site survey certificate

1.2 Related Sections

- .1 Submittal Procedures Section 01 33 00
- .2 Quality Control Section 01 45 00

1.3 Submission

- .1 Prepare instructions and date by personnel experienced in maintenance and operation of described products.
- .2 Copy will be returned after final inspection, with Contract Administrator's comments.
- .3 Revise content of documents as required prior to final submittal.
- .4 At Total Performance, the Contractor shall provide the Contract Administrator with one (1) set of record drawings as "As-Built" Drawings and specifications bearing notations of all changes and variations from the originals. The Contractor shall affix his company name and sign and date each drawing. The accuracy of these drawings shall be the responsibility of the Contractor, who shall bear all expenses of corrections thereto. Final payment shall not be made until this requirement has been fulfilled.
- .5 If requested, furnish evidence as to type, source and quality of products provided.
- .6 Defective products will be rejected, regardless of previous inspections, Replace products at own expense.
- .7 Pay costs of transportation.

1.4 Format

- .1 Organize data in the form of an instructional manual.
- .2 Binders: Vinyl, hard covered, 3 'D' ring, loose leaf with spine.
- .3 When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine.
- .4 Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
- .5 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

1.5 Contents – Each volume

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

1.6 As-Builts and Samples

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

1.7 Recording Actual Site Conditions

- .1 Record information on set of black line opaque drawings, and in copy of Project Manual, provided by Contractor Administrator.
- .2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.
- .3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- .4 Contract Drawings and shop drawings: legibly mark each item to record actual construction, including:

- .1 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
- .2 Field changes of dimension and detail.
- .3 Changes made by change orders.
- .4 Details not on original Contract Drawings.
- .5 References to related shop drawings and modifications.
- .5 Specifications; legibly mark each item to record actual construction, including:
 - .1 Changes made by Addenda and change orders.
- .6 Other Documents: maintain manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.

1.8 Materials and Finishes

- .1 Additional Requirements: as specified in individual specifications sections.

1.9 Warranties and Bonds

- .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
- .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
- .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item of Work.
- .4 Except for items put into use with City's permission, leave date of beginning of time of warranty until the Date of Total Performance is determined.
- .5 Verify that documents are in proper form, contain full information, and are notarized.
- .6 Co-execute submittals when required.
- .7 Retain warranties and bonds until time specified for submittal.

2. PRODUCTS

2.1 Not used

- .1 Not used

3. EXECUTION

3.1 Not used

- .1 Not used

END OF SECTION

1. GENERAL

1.1 Related Work

- .1 All Sections: As required, indicated to complete the Work.

1.2 Reference Standards

- .1 Do Work in accordance with all requirements of National Building Code of Canada, Part 8, local authority having jurisdiction.

2. PRODUCTS

2.1 Materials

- .1 Items, materials not required for repair of existing Work remain City of Winnipeg property, if so requested.
- .2 Incorporate salvaged, used material in new construction ONLY with Contract Administrators permission, as specified, indicated.
- .3 Provide same products, types of construction in existing structure required to patch, extend, match existing Work.
- .4 Perform patching, extending, matching with materials, products as required to make Work complete, consistent to quality standards of products, finishes, type of construction existing.

3. EXECUTION

3.1 Examination

- .1 Examine all areas undergoing, involved in, connected with renovation, alteration, demolition Work. Examine Site, determine nature, extent of materials existing.

3.2 Preparation

- .1 Coordinate Work of trades, schedule elements of demolition, alterations, renovation Work by procedures, methods to expedite completion.
- .2 Phase all renovation, alteration, demolition operations to suit City of Winnipeg requirements.
- .3 Cooperate, schedule, fully coordinate with City of Winnipeg, other Sections, Work to be performed as indicated, required in accordance with schedules, timings arranged.
- .4 Cooperate fully, work in conjunction with all Sections for removal, breaking through, patching, repairing, making good, in existing building areas.
- .5 Execute all Work in orderly, careful manner with due consideration for occupants of existing building areas.

- .6 Arrange renovation, alteration, demolition so City of Winnipeg operations required, used in present function of existing buildings are maintained in full use.
- .7 Note existing adjacent areas, building will remain in continual full occupancy.
- .8 Cooperate with City of Winnipeg, staff personnel, general public, allow for uninterrupted passage, access for such persons while construction, renovation, alteration, demolition Work in progress. Provide covered walkways, hoardings, protective devices as required, directed.
- .9 Provide temporary access indicated, required, as directed.
- .10 Arrange to disconnect, relocate items at time satisfactory to City of Winnipeg.
- .11 Limit renovation, alteration, construction operations creating excessive noise to times requested by City of Winnipeg. Co-operate fully with City of Winnipeg.
- .12 Notify City of Winnipeg sufficiently ahead of time before Work commences to permit preparation for vacating different areas, particular areas requested.
- .13 Suspend, accelerate Work if requested, resume Work when City of Winnipeg gives permission for operations in area to resume.
- .14 City of Winnipeg requested Work hours, suspensions, accelerations shall incur no penalty, financial or otherwise to City of Winnipeg.
- .15 Ensure existing building areas maintained in secure manner where affected by Work.
- .16 Provide adequate protection to persons, property. Execute Work in manner to avoid interference with use of, passage to, from adjoining building areas, facilities

3.3 Shoring, Protection Devices, Hoarding

- .1 Provide all temporary, permanent shoring, protective devices, hoarding to complete the Work as indicated, required.
- .2 Shore, brace existing structure with ample strength materials to carry superimposed loads safely without deflection.
- .3 Provide suitable dustproof hoarding in building areas where Work will occur as directed, required before renovation, alteration, demolition begins, leave sufficient room for construction operations.
- .4 Run, place hoarding from floor to ceiling, wall to wall, other manner directed, except as required for access. Apply tape, other methods to prevent dust infiltration.
- .5 Maintain hoarding in place until Work in area complete, unless Contract Administrator directs otherwise. Observe limiting dimension for extent of hoarding into corridors in use as indicated on drawings.
- .6 Use canvas, polyethylene curtaining as hoarding only for short periods, subject to Contract Administrator approval. Hoarding shall be, remain Contractor property. Arrange Work so minimum hoarding required. Second hand materials may be used. Finish on City

of Winnipeg occupied side with paint or use pre-finished material to Contract Administrator approval.

- .7 Provide temporary enclosures as specified to separate Work areas from existing building, from areas occupied by City of Winnipeg where indicated, required.

3.4 Existing Materials and Equipment

- .1 Remove items, materials intended for reuse, re-installation, identify, handle, store in manner to prevent damage.
- .2 Return to City of Winnipeg, when requested, all items, equipment, fixtures, fitments, materials not re-used, required for the Work.

3.5 Renovations and Alterations

- .1 Provide all labour, materials, methods, equipment and accessories to complete all demolition, renovations, alterations, removals Work.
- .2 Remove existing interior finishes, components indicated, as required.
- .3 Cut ceiling system as required to accomplish Work.
- .4 Other work, demolition, renovation, alteration, removal indicated, required.
- .5 Assign Work of moving, removal, cutting and patching to trades qualified to perform Work in manner to cause least damage to each type of Work.
- .6 Patch, extend existing Work using skilled mechanics capable of matching existing quality of workmanship.
- .7 Provide means of returning surfaces to appearance of new Work.
- .8 Perform cutting, removal Work to remove minimum necessary, in manner to avoid damage to adjacent Work.
- .9 Cut finish surfaces, plaster, metals by methods to terminate surfaces in straight lines, at natural points of division.
- .10 Protect existing finishes, equipment, adjacent Work scheduled to remain from damage.
- .11 Cut, move, remove items as required for access, allow demolition, alterations, renovations, new Work to proceed:
 - .1 Repair, removal of hazardous, unsanitary conditions.
 - .2 Removal of abandoned items, items serving no useful purpose, abandoned piping, conduit, wiring.
 - .3 Removal of unsuitable, extraneous materials not marked for salvage, equipment, debris, rotted wood, rusted metals, deteriorated concrete.
 - .4 Cleaning of existing surfaces, removal of surface finishes required to install new Work, finishes.

- .11 Patch, repair, refinish existing items, surfaces to remain to new condition for each material, with approved transition to adjacent new construction.

3.6 Damaged Surfaces

- .1 Patch, replace any portion existing finished surface damaged during construction with matching material.
- .2 Provide adequate support of substrate prior to patching finish.
- .3 Refinish patched portions of painted, coated surfaces to produce uniform colour, texture over entire surface.
- .4 Refinish entire surface to nearest intersections where existing surface finish cannot be matched.

3.7 Transition from Existing Work to New Work

- .1 Make smooth, approved transitions where new Work abuts, finishes flush with existing Work.
- .2 Ensure patched Work matches existing adjacent Work in texture, appearance with patch, transition invisible at distance five feet.
- .3 Terminate existing surface along straight lines at natural division line, provide approved trim when finished surfaces cut in manner preventing smooth transition with new Work.

3.8 Utilities

- .1 Observe rules, regulations governing respective utilities in executing all Work.
- .2 Protect active utilities from damage, remove, relocate as indicated, required.
- .3 Safeguard, protect from damage, support active utilities which remain in service until after relocation.
- .4 Assume responsibility for any damage and/or interruption to any active utility services caused by Work.

3.9 Cleaning

- .1 Remove, legally dispose off Site daily, when directed, all surplus materials, debris, waste existing materials, items not required by City of Winnipeg, not required for Work resulting from demolition, removals.
- .2 Perform periodic, final cleaning specified, required.
 - .1 Clean City of Winnipeg occupied areas daily, when requested, as directed by City of Winnipeg Representative Officer.
 - .2 Clean spillage, overspray, heavy collection of dust in City of Winnipeg occupied areas immediately.

- .3 Provide final cleaning in conjunction with Contractor, return City of Winnipeg occupied space to City of Winnipeg in condition suitable for City of Winnipeg use at completion of alteration, renovation Work in each area.

END OF SECTION

1. GENERAL

1.1 Section Includes

- .1 Methods and procedures for shoring of building components designated to remain.

1.2 Related Sections

- .1 05 12 10 Structural Steel Fabrications

1.3 References

- .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-94, Stipulated Price Contract.
- .2 Canadian Standards Association (CSA)
 - .1 CSA B111 1974(R2003), Wire Nails, Spikes and Staples.
 - .2 CSA G40.20/G40.21-04, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .3 CSA O86.1-01, Engineering Design in Wood (Limited States Design).
 - .4 CAN/CSA S16.1-01, Limit States Design of Steel Structures.
 - .5 CAN/CSA S136-01, Cold Formed Steel Structural Members including supplement CSA S136.1 01.
 - .6 CSA W59-03, Welded Steel Construction (Metal Arc Welding).
- .3 American Society for Testing and Materials (ASTM)
 - .1 ASTM A325M-04b, Specification for Structural Bolts, Steel, Heat Treated 120/105 ksi Minimum Tensile Strength.

1.4 Measurement Procedure

- .1 No measurement will be made for Work completed under this section.

1.5 Definitions

- .1 Shoring: temporary support installed in a structure to relieve loads.

1.6 Performance Requirements

- .1 Ensure that materials, equipment and procedures safely supporting existing structure and construction live loads; that allow Work to be accomplished and that minimize risk of damage of adjacent structures.

1.7 Shop Drawings

- .1 Submit shop drawings for all structural members / connections in shoring Work and as noted on the drawings.
- .2 Shop drawings to indicate shop and erection details in accordance with performance requirements in 1.6.

2. PRODUCTS

2.1 Materials

- .1 Structural steel members: to CAN/CSA G40.21, grade 350 or better, type W.
- .2 Steel connections: to CAN/CSA G40.21, grade 300 or better, type W.
- .3 High tensile bolts: to ASTM A325M – or as specified on drawings.

- .4 Welding materials: CSA W59.

3. EXECUTION

3.1 Examination

- .1 Before starting Work, verify existing conditions and variations from original contract documents and notify Contract Administrator.

3.2 Preparation

- .1 Remove machinery installations, services, stored materials from building in area of shoring posts to facilitate installation as required. Store materials designated for salvage or reuse in area designated by City of Winnipeg.
- .2 Before shoring is commenced.
 - .1 Components to be protected:
 - .1 Existing structural components designated to remain.
 - .2 All other items designated to remain or for reuse.

3.3 Installation

- .1 Commence Work as per Contract Administrator instructions.
- .2 Obtain approval from Contract Administrator, before execution, if alteration to bracing and shoring systems are necessary.
- .3 Support individual elements that become loose during shoring and bracing installation.
- .4 Erect structural steel Work to CAN/CSA S16.1 and CSA S136.
- .5 Weld to CSA W59.

3.4 Adjustment

- .1 Monitor bracing and shoring system performance and maintain its effectiveness by making adjustments, replacing or repairing damaged and weakened elements of system until final completion of project.

END OF SECTION

1. GENERAL

1.1 Scope of Work

- .1 Provide structural steel shoring posts complete with plate saddle and baseplate / weldplate below existing precast concrete 'T'-sections. The details of the connections are shown on the structural drawings.

1.2 Related Sections

- .1 Section 02 25 00 Temporary Shoring

1.3 References

- .1 Canadian Standards Association (CSA)
 - .1 CAN/CSA-G40.20/G40.21-98, General Requirements for Rolled or Welded Structural Quality Steel.
 - .2 CAN/CSA-G164-M92(R1998), Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CAN/CSA-S16.1-01, Limit States Design of Steel Structures.
- .2 American Society for Testing and Materials (ASTM)
 - .1 ASTM F593-02 Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs.
 - .2 ASTM F594-02 Standard Specification for Stainless Steel Nuts.

1.4 Shop Drawings

- .1 Submit shop drawings in accordance with Section 013300 - Submittals.
- .2 Indicate materials, core thicknesses, finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details, and accessories.

1.5 Protection

- .1 Deliver, store, handle and protect materials.

2. PRODUCTS

2.1 Materials

- .1 Steel sections and plates: to CAN/CSA-G40.20/G40.21, Grade 350W or better (HSS) / Grade 300W or better (plates/angles).
 - .1 Steel plates to be as shown and dimensioned as shown on drawings.
- .2 Bolts and anchor bolts: 304/316 Series stainless steel to ASTM A593 with a yield strength not less than 414 MPa (60 ksi) unless noted otherwise on drawings.

2.2 Fabrication

- .1 Fabricate Work square, true, straight and accurate to required size, with joints closely fitted and properly secured.
- .2 Where possible, fit and shop assemble Work, ready for erection.

- .3 Site measure for column lengths at each location prior to fabrication.

2.3 Finishes

- .1 Zinc primer: zinc rich, ready mix to CAN/CGSB-1.181.
- .2 Paint steel components to Section 09900. Colour chosen by City of Winnipeg.

3. EXECUTION

3.1 Erection

- .1 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
- .2 Make field connections with bolts to CAN/CSA-S16.1.

4. FIXED PRICE

Provide a fixed price, inclusive of all labour, materials, supervision, access, overhead, equipment, finishing, and ancillaries for the installation of the steel reinforcing plates as shown on the drawings and described herein. The Contractor is to note that any concrete repairs required to install the plates will be covered under the appropriate sections.

END OF SECTION