

**Part 1 General**

**1.1 WORK COVERED BY CONTRACT DOCUMENTS**

- .1 Work of this Contract comprises general construction of approximately 2,500 m of watermain, chambers and appurtenances, located at AAFC Brandon Research and Development Centre at 2701 Grand Valley Rd Brandon MB; and further identified as The Facility.

**1.2 CONTRACT METHOD**

- .1 Construct the Work under a combined price contract.

**1.3 WORK SEQUENCE**

- .1 Construct the work so that water service to the Facility is uninterrupted other than as required for connection to existing services as approved by the Departmental Representative. Work shall be phased as follows:
  - .1 Construct the 250-mm dia. watermain from Distribution Chamber to Braecrest watermain, including meter chamber and fire hydrant. Temporarily cap 250-mm dia. watermain before tie-in to Distribution Chamber.
  - .2 Construct the 300-mm dia. watermain and Valve Chamber from Distribution Chamber to 18<sup>th</sup> St. Meter Chamber. Temporarily cap 300-mm dia. watermain before tie-in to Distribution Chamber and at 18th St. Meter Chamber.
  - .3 Tie-in 250-mm dia. and 300-mm watermains to Distribution Chamber. Facility service to site will be through new 250-mm dia. service. 300-mm watermain to be isolated until additional tie-ins, commissioning and testing are completed. Cap and abandon existing 300-mm watermain. Service interruptions is required to complete this phase of work. Note: existing hydrants along the existing watermain and service to existing 150-mm watermain will be out of service until tied into the new 300-mm watermain is completed.
  - .4 Tie-in 300-mm watermain to 18th St. Meter Chamber, 150-mm watermain and hydrants. Cap and abandon existing watermain.
  - .5 Resume service to all Facilities.
  - .6 Complete restoration and flow testing.
- .2 Submit detail work sequence plan (based on above) with additional details, proposed times of service shut-down and applicable testing procedures for review by the Departmental Representative prior to proceeding with the works.
- .3 Coordinate with Construction Schedule and with Departmental Representative Occupancy during construction.
- .4 Maintain fire access/control.

**1.4 HOURS OF WORK**

- .1 Perform Work in conformity with all municipal bylaws with respect to noise control, hours of work, night work and holiday work.

- .2 Obtain written permission of Departmental Representative a minimum of 48 hours before undertaking holiday work or night work.

## **1.5 CONTRACTOR USE OF PREMISES**

- .1 Contractor has unrestricted use of Site in areas indicated, within the specified hours of work, until Certificate of Total Performance is issued.
- .2 Ascertain boundaries of Site within which work must be confined.
- .3 Obtain written authorization from Departmental Representative to enter private lands which are the subject of easements or rights-of-way obtained by Departmental Representative.
- .4 Ascertain and abide by conditions pertaining to use of easements or rights-of-way.
- .5 Assume full responsibility for protection and safekeeping of products under this Contract.
- .6 Obtain and pay for use of additional storage, access or work areas needed for operations under this Contract.
- .7 Limit use of premises for work, storage, and access, to allow:
  - .1 Departmental Representative occupancy.
- .8 Coordinate use of premises under direction of Departmental Representative.
- .9 Prior to final inspection, obtain and submit to Departmental Representative written signed releases from all Departmental Representatives of lands affected by easements or rights-of-way, confirming that properties have been left in an acceptable condition and that Departmental Representatives have no further claims in this respect.

## **1.6 DEPARTMENTAL REPRESENTATIVE OCCUPANCY**

- .1 Departmental Representative will occupy premises during entire construction period for execution of normal operations.
- .2 Cooperate with Departmental Representative in scheduling operations to minimize conflict and to facilitate Departmental Representative usage.

## **1.7 DRAWINGS AND SPECIFICATIONS FURNISHED**

- .1 Departmental Representative Responsibilities:
  - .1 Provide 2 copies of drawings and specifications to Contractor.
- .2 Contractor Responsibilities:
  - .1 Pay for additional copies of drawings and specifications if required.
  - .2 Maintain at Site one complete set of drawings and specifications. Make available to Departmental Representative at any time.

**1.8 SUPPLEMENTARY DRAWINGS**

- .1 Departmental Representative may furnish supplementary drawings to assist proper execution of work. Such drawings will be issued for clarification only and will have same meaning and intent as if included with plans referred to in Contract Documents.

**Part 2 Products**

Not Used

**Part 3 Execution**

NOT USED

END OF SECTION

**Part 1 General**

**1.1 USE OF THE SITE AND FACILITIES**

- .1 The Work Site shall only be used for the purposes of the Work. The Work Site will be made available by Departmental Representative to the Contractor for its non-exclusive use for the duration of the Work, unless otherwise provided in the Contract Documents.
- .2 An area will be made available to the Contractor for laydown and office facilities at the site. The size and location of this area shall be indicated on the drawings.
- .3 The Contractor shall keep the Work Site clean and free from accumulation of waste materials and rubbish regardless of source. Contractor shall maintain adequate drainage at the Worksite. Snow shall be removed by the Contractor as necessary or as directed by the Departmental Representative and at no additional cost.
- .4 The Contractor shall provide sanitary facilities for work force in accordance with governing regulations and the Environmental Procedures for this project. The Contractor shall post notices and take such precautions as required by local health authorities and keep area and premises in sanitary condition.
- .5 Any damage to the Work Site caused by the Contractor shall be repaired by the Contractor at his expense.
- .6 In case of emergency, contact within Manitoba;

RCMP	(204) 726-7522
Brandon Fire Emergency Services - Hall 1	(204) 729-2400
Brandon Regional Health Centre	(204) 578-4000
Brandon Police Services	(204) 729-2345
Department of Natural Resources	(204) 726-6441

**1.2 ACCESS TO ADJACENT PROPERTIES**

- .1 Construction operations shall be completed on time and executed to minimize inconvenience to the public.
- .2 Contractor shall maintain access for emergency vehicles and local traffic at all times.

**1.3 PROTECTION OF PERSONS AND PROPERTY**

- .1 The Contractor shall comply with all applicable safety regulations of the Workers' Compensation Board of Manitoba (WCB) including, but not limited to, WCB's Industrial Health and Safety Regulations, Industrial First Aid Regulations, and Workplace Hazardous Materials Information System Regulations.

- .2 The Contractor shall take all necessary precautions and measures to prevent injury or damage to persons and property on or near the Work Site.
- .3 All areas with rutting damage or noticeable compaction from heavy equipment must be re-graded and back-filled level.
- .4 Any holes or depressions caused by site preparation or construction will be back-filled with granular sub-base material and compacted level to 95% standard proctor.
- .5 The Contractor shall promptly take such measures as are required to repair, replace or compensate for any loss or damage caused by the Contractor to any property or, if Departmental Representative so directs, shall promptly reimburse to Departmental Representative the costs resulting from such loss or damage.

#### **1.4 HOURS OF OPERATION**

- .1 All Work shall be carried out between the hours of 07:00 and 19:00 Monday to Friday and between 09:00 to 21:00 Saturday.
- .2 No Work shall be performed outside the hour's stated above or on Sunday or on Statutory or Civic holidays without written permission from the Departmental Representative.
- .3 The Contractor shall require forty-eight (48) hours in advance from the Departmental Representative for any Work to be performed outside the hours slated in this Section.

#### **Part 2 Products**

##### **2.1 NOT USED**

- .1 Not Used

#### **Part 3 Execution**

##### **3.1 NOT USED**

- .1 Not Used

**END OF SECTION**

**Part 1 General**

**1.1 REFERENCE STANDARDS**

- .1 Associated Work Zone Policies CSA Code S350-M1980 Code of Practice for Safety in Demolition.
- .2 National Building Code of Canada (Edition 2015).
- .3 Manitoba Building Code (Edition 2011).

**1.2 DESCRIPTION**

- .1 Mobilization and Demobilization consists of preparatory work and operations including but not limited to, those necessary for the movement of personnel, equipment, offices, supplies and incidentals to and from the project site.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not Used

**END OF SECTION**

**Part 1            General**

**1.1                DEPARTMENTAL REPRESENTATIVE TO ADMINISTER**

- .1      Departmental Representative will administer preconstruction meeting and progress meetings.
- .2      Contractor's Project Superintendent, and senior representatives of major Subcontractors, to attend all meetings.
- .3      Representatives of Contractor, Subcontractor and suppliers attending meetings shall be qualified and authorized to act on behalf of the party each represents.
- .4      Complete records of meeting minutes to be taken and distributed by the Departmental Representative.
- .5      Contractor to provide physical space for meetings.

**1.2                PRE-CONSTRUCTION MEETING**

- .1      Within thirty (30) days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2      Departmental Representative, Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.
- .3      Establish time and location of meeting and notify parties concerned A minimum seven (7) days before meeting.
- .4      Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
- .5      Agenda to include the following:
  - .1      Appointment of official representative of participants in the Work
  - .2      Schedule of Work, progress scheduling
  - .3      Schedule of submission of shop drawings, samples, colour chips
  - .4      Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences
  - .5      Delivery schedule of specified equipment
  - .6      Site security
  - .7      Contemplated change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements
  - .8      Force account procedures
  - .9      Provided Products
  - .10     Record drawings
  - .11     Maintenance manuals
  - .12     Take-over procedures, acceptance, warranties

- .13 Monthly progress claims, administrative procedures, photographs, holdbacks
- .14 Appointment of inspection and testing agencies or firms
- .15 Insurance
- .16 Safety issues.

### **1.3 PRE-CONSTRUCTION INSPECTION**

- .1 Prior to the commencement of Work the Project Superintendent and Departmental Representative shall conduct a pre-construction inspection of the project site and record the condition of the site by means of a written record, digital video and photographs.
- .2 Establish time and location of meeting and notify parties concerned A minimum seven (7) days before meeting.

### **1.4 PROGRESS MEETINGS**

- .1 During course of Work, schedule progress meetings every two (2) weeks. Additional meeting to be held one (1) week prior to project completion.
- .2 Notify parties minimum seven (7) days prior to meetings.
- .3 Record minutes of meetings and circulate to attending parties and affected parties not in attendance within seven (7) days after meeting.
- .4 Agenda to include the following:
  - .1 Review, approval of minutes of previous meeting
  - .2 Review of Work progress since previous meeting
  - .3 Field observations, problems, conflicts
  - .4 Problems which impede construction schedule
  - .5 Review of off-site delivery schedules
  - .6 Corrective measures and procedures to regain projected schedule
  - .7 Revisions to construction schedule
  - .8 Progress, schedule, during succeeding work period
  - .9 Review submittal schedules: expedite as required
  - .10 Maintenance of quality standards
  - .11 Pending changes and substitutions
  - .12 Review proposed changes for effect on construction schedule and on completion date
  - .13 Safety issues
  - .14 Other business.

## **Part 2 Products**

Not Used



**Part 3            Execution**

Not Used

END OF SECTION

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**Part 1            General**

**1.1            ADMINISTRATIVE**

- .1      Submit to the Departmental Representative submittals listed for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2      Do not proceed with Work affected by submittal until review is complete.
- .3      Present shop drawings, product data and samples in SI Metric units.
- .4      Where items or information are not produced in SI Metric units converted values are acceptable.
- .5      The Contractor shall review submittals prior to submission to the Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated 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 the Departmental Representative in writing at time of submission, identifying any deviations from requirements of Contract Documents stating reasons for deviations.
- .7      Verify field measurements and affected adjacent Work is consistent.
- .8      Contractor's responsibility for errors and omissions in submission is not relieved by the Departmental Representative review of submittals.
- .9      Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by review.
- .10     Keep one (1) reviewed copy of each submission on site

**1.2            SHOP DRAWINGS, PRODUCT DATA AND MIX DESIGNS**

- .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 Work.
- .2      The term "mix design" means engineered design for proportioning materials in concrete including all supporting test results, materials properties.
- .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 five (5) business days for the Departmental Representative review of each submission.
- .5 Adjustments made on shop drawings by the Departmental Representative are not intended to change the Contract Price. If adjustments affect the value of Work, state such in writing to the prior to proceeding with the Work.
- .6 Make changes in shop drawings as the Departmental Representative may require, consistent with the Contract Documents. When resubmitting, notify the Departmental Representative in writing of any revisions other than those requested.
- .7 Submit letter(s) of certification for the concrete mix design.
- .8 Accompany submissions with a transmittal letter containing:
  - .1 Date
  - .2 Project title and number
  - .3 Contractor's name and address
  - .4 Identification and quantity of each shop drawing, mix design, product and sample
  - .5 Other pertinent data
- .9 Submissions shall include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Subcontractor
    - .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 the Contract Documents.
  - .5 Details of appropriate portions of the Work as applicable:
    - .1 Fabrication
    - .2 Performance characteristics
    - .3 Standards
- .10 After the Departmental Representative's review, distribute copies.
- .11 Submit one (1) electronic copy of the shop drawings or mix design for each requirement requested in the Specification Sections.
- .12 Submit one (1) electronic copy of the product data sheets or brochures for requirements requested in the Specification Sections and where shop drawings will not be prepared due to standardized manufacture of the product.
- .13 Delete information not applicable to project.

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

### **1.3 CERTIFICATES AND TRANSCRIPTS**

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.

### **1.4 REQUIRED CONTRACTOR SUBMITTALS**

- .1 Weekly Progress Reports that outline the detailed Work (Contractor, subcontractors, suppliers, consultants) completed to date as well as the anticipated Work to be performed for the following week on a day-by-day basis. Work to be linked to activities in project schedule and to provide information on materials, equipment and manpower. Also, alternate Work to be identified if Work or a portion of, proposed cannot be done due to weather, equipment breakdown, delays in delivery, etc.
- .2 Quality Control Inspection Reports - The Contractor shall maintain a daily inspection report that itemizes the results of all Quality Control inspections conducted by the Contractor. The reports shall be made available for review by the Departmental Representative upon request. A summary of all Quality Control inspections conducted to date shall be submitted by the Contractor with each request for payment.

- .3 Shop Drawings and Mix Designs - The Contractor shall submit all design drawings, shop drawings and mix designs required to fabricate and / or conduct the work a minimum two (2) weeks prior to fabrication / production.
- .4 Progress Photographs:
  - .1 Formats:
    - .1 Electronic: .jpg files, minimum three (3) mega pixels.
  - .2 Submission requirements: one (1) set of electronic files.
  - .3 Identification: name and number of project, description of photograph and date.
  - .4 Viewpoints: viewpoints determined by the Departmental Representative.
  - .5 Submission Frequency: prior to commencement of Work and weekly thereafter with progress statement, or as directed by the Departmental Representative.
  - .6 Submit CD with all electronic pictures as part of closeout package.
- .5 Submit an electronic copy of Contractor's authorized representative's work site health and safety inspection reports to the Departmental Representative.
- .6 Submit copies of reports or directions issued by Federal and Provincial health and safety inspectors.
- .7 Submit copies of incident and accident reports.
- .8 Project Completion Submittals
- .9 Record Drawings -The Contractor shall submit copies of all Contractor's Drawings and AutoCad drawings revised as necessary to record all as-built changes to the Work and the Contractor shall submit a set of Contract Drawings clearly marked to record as-built changes to the Work.
- .10 Quality Control Records - The Contractor shall submit a bound and itemized set of project quality control documentation.
- .11 The Contractor shall not construe the Departmental Representative's authorization of the submittals to imply approval of any particular method or sequence for conducting the Work, or for addressing health and safety concerns. Authorization of the programs shall not relieve the Contractor from the responsibility to conduct the Work in strict accordance with the requirements of Federal or Provincial regulations, this specification, or to adequately protect the health and safety of all workers involved in the project and any members of the public who may be affected by the project. The Contractor shall remain solely responsible for the adequacy and completeness of the programs and work practices, and adherence to them.

**Part 2            Products**

**2.1                NOT USED**

.1            Not Used

**Part 3            Execution**

**3.1                NOT USED**

.1            Not Used

**END OF SECTION**

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**Part 1            General**

**1.1                DEFINITIONS**

- .1      Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.
- .2      Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

**1.2                ENVIRONMENTAL PROTECTION PLAN**

- .1      The Contractor must prepare a project and site-specific Environmental Protection Plan (EPP). The EPP must outline the applicable sections of the federal and provincial legislation and the measures that will be implemented to ensure compliance with those regulations.
- .2      The EPP must outline the proposed construction schedule, construction materials and methods to be used during construction activities. The EPP must identify the environmental sensitivities associated with the project location and proposed activities, including those addressed in the EA. The EPP must indicate the mitigation measures that will be implemented to prevent or minimize the potential impacts to the environment and will include a plan for contingency measures to be implemented in the event of mitigation measure failure.
- .3      A site-specific Erosion and Sediment Control (ESC) plan must be included as part of the Contractor's EPP.
- .4      The EPP will be reviewed by Departmental Representative for approval prior to commencing construction.
- .5      The Contractor will ensure effective implementation of the EPP.

**1.3                CONSTRUCTION SITE ACCESS AND PARKING**

- .1      All private vehicles must be parked on Laydown Areas pre-approved by the Departmental Representative.
- .2      The Contractor shall ensure that the environment either within and beyond the work limits is not negatively impacted or damaged by workers' vehicles or construction machinery.

#### **1.4 EROSION AND SEDIMENT CONTROL**

- .1 Erosion control measures that prevent sediment from entering any waterway, water body or wetland in the vicinity of the construction site are a critical element of the project and shall be implemented by the Contractor.
- .2 Erosion and sediment control measures must be constructed and functional prior to initiating construction activities.
- .3 All ESC measures must be inspected daily prior to the start of construction activities, and immediately following periods of heavy precipitation or storm events.

#### **1.5 WORK ADJACENT TO WATERWAYS**

- .1 The Contractor shall prevent any deleterious and objectionable materials from entering streams, rivers, wetlands, water bodies or watercourses that would result in damage to aquatic and riparian habitat.
- .2 Do not operate construction equipment in waterways.
- .3 Do not dump excavation fill, waste material, debris or other extraneous material in waterways, under any circumstance.

#### **1.6 POLLUTION CONTROL**

- .1 Maintain temporary erosion and pollution control features installed under this contract.
- .2 The containment, storage, security, handling, use, unique spill response requirements and disposal of empty containers, surplus product or waste generated in the use of any hazardous or toxic products shall be in accordance with all applicable federal and provincial legislation. Hazardous products shall be stored no closer than 100 metres from watercourses banks and slope breaks.
- .3 The Contractor shall provide spill kits at re-fuelling, lubrication, and repair locations that will be capable of dealing with 110% of the largest potential spill and shall be maintained in good working order on the construction site.
- .4 The Contractor and site staff shall be informed of the location of the spill response kit(s) and be trained in its use.
- .5 Spill kits must be present in all equipment and machinery used on site.
- .6 Timely and effective actions shall be taken to stop, contain and clean-up spills as long as the site is safe to enter. The Departmental Representative shall be notified immediately of any spill.
- .7 In the event of a major spill, all work shall be stopped and all personnel devoted to spill containment and clean-up.
- .8 The costs involved in a spill incident (the control, clean up, disposal of contaminants and site remediation to pre-spill conditions), shall be the responsibility of the Contractor.



- .9 Cover or wet down dry materials and rubbish to prevent blowing dust or debris. Contractor to provide dust control for temporary roads and laydown areas.

#### **1.7 EQUIPMENT MAINTENANCE, FUELLING AND OPERATION**

- .1 All equipment must be properly maintained, in sound mechanical condition and free of any fuel, oil, and hydraulic fluid or coolant leaks.
- .2 The Contractor shall ensure that all equipment is inspected daily for fluid/fuel leaks and maintained in good working order.
- .3 Equipment must be free of external grease, loose dirt or oil and the machinery must be pressure washed prior to the start of the project.

#### **1.8 FIRES**

- .1 Fires or burning of waste materials is not permitted.

#### **1.9 SITE CLEARING AND PLANT PROTECTION**

- .1 Vegetation Clearing
  - .1 Protect trees and plants on site and adjacent properties where indicated.
  - .2 Minimize stripping of topsoil and vegetation.
- .2 Soil Stripping Soil horizons must be excavated and stored separately if applicable. Organics and topsoil should be salvaged and replaced in the reverse order of excavation over mineral soils during re-contouring activities, wherever possible.
- .3 Soils must be stored within temporary workspaces as approved the Departmental Representative. If soil is stored for an extended period of time (greater than seven (7) days) or if heavy rain or wind is forecast, soil piles must be covered to reduce erosion loss.

#### **1.10 WASTE MATERIALS STORAGE AND REMOVAL**

- .1 The Contractor and workers shall dispose of hazardous wastes in conformance with the Environmental Contaminants Act and applicable provincial regulations while observing the Code of Good Practice for Management of Hazardous and Toxic Wastes at Federal Establishments.
- .2 Construction, trade, hazardous waste and domestic waste materials shall not be burned, buried or discarded at the construction site. These wastes shall be contained and removed in a timely and approved manner by the Contractor and workers, and disposed of at an appropriate waste landfill site.

#### **1.11 MATERIALS TO BE SALVAGED**

- .1 Remove, clean, deliver, unload and neatly stockpile at site materials which are specified or designated by Departmental Representative to be salvaged.

- .2 Repair or replace any salvaged materials damaged during removal, unloading or in transit at the Contractors expense.

#### **1.12 CLEAN-UP**

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.
- .3 Store materials resulting from demolition activities that are salvageable.

#### **1.13 RESTORATION**

- .1 To reduce the spread of invasive species, all disturbed areas with bare soil must be reseeded with a weed-free native seed mixture representative of the surrounding habitat as soon as possible after disturbance.
- .2 Erosion control measures must be implemented and maintained until vegetation re-establishes.
- .3 Re-vegetation and erosion control plans must be submitted to the Departmental Representative for review prior to mobilization on site and construction commences.

### **Part 2 Products**

#### **2.1 NOT USED**

- .1 Not Used

### **Part 3 Execution**

#### **3.1 NOT USED**

- .1 Not Used

**END OF SECTION**

**Part 1            General**

**1.1                REQUIREMENTS INCLUDED**

- .1       Regulations affecting the Work imposed by:
  - .1       City of Brandon
  - .2       Manitoba Infrastructure and Transportation
  - .3       Manitoba Sustainable Development
  - .4       National Transportation Agency of Canada
  - .5       Manitoba Hydro
  - .6       Manitoba Telecom Service
  - .7       Westman Communication Services
  - .8       Bell Canada
  - .9       Fisheries and Oceans Canada
  - .10      Navigation Protection Act
  - .11      Environment Canada
  - .12      National Energy Board
  - .13      National Building Code
  - .14      Occupational Health and Safety
  - .15      Municipal by-laws and servicing standards
  - .16      Municipal utilities

**1.2                COMPLIANCE WITH REGULATIONS**

- .1       Ascertain requirements and regulations of authorities listed above.
- .2       Comply with all such requirements and regulations as applicable to the Work.
- .3       Requirements set out in this Section are for guidance and information and are not necessarily complete.

**1.3                PERMITS**

- .1       Obtain all construction permits necessary for the Works other than those listed under the above item.

**1.4                WORK IN VICINITY OF OVERHEAD POWER LINES**

- .1       Request power company to relocate, de-energize or guard any energized conductor where construction equipment may operate within 3 m of conductor.
- .2       Obtain power company approval prior to operating any equipment within 3 m of energized conductor.
- .3       Where practical, avoid storage of metallic pipe sections under high voltage overhead power lines.

- .4 If pipe sections must be stored under power lines, protect personnel from effects of induced currents by grounding pipe sections at two (2) locations with AWG #2 copper ground conductors and grounding rods.

**Part 2 Products**

Not Used

**Part 3 Execution**

Not Used

END OF SECTION

**Part 1            General**

**1.1            TESTING LABORATORY SERVICES**

- .1 Particular requirements for inspection and testing to be carried out by testing laboratory designated by Departmental Representative are specified under various sections.
- .2 Contractor will appoint and pay for services of testing laboratory including but not limited to the following:
  - .1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
  - .2 Inspection and testing performed exclusively for Contractor's convenience.
  - .3 Testing, adjustment and balancing of conveying systems, mechanical and electrical equipment and systems.
  - .4 Mill tests and certificates of compliance.
  - .5 Tests specified to be carried out by Contractor under the supervision of Departmental Representative.
- .3 Where tests or inspections by designated testing laboratory reveal work not in accordance with contract requirements, Contractor shall pay costs for additional tests or inspections as Departmental Representative may require to verify acceptability of corrected work.
- .4 Contractor's Responsibilities:
  - .1 Furnish labour and facilities to:
    - .1 Provide access to work to be inspected and tested.
    - .2 Facilitate inspections and tests.
    - .3 Make good work disturbed by inspection and test.
    - .4 Provide storage on site for laboratory's exclusive use to store equipment and cure test samples.
  - .2 Notify Departmental Representative sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test.
  - .3 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.
  - .4 Pay costs for uncovering and making good work that is covered before required inspection or testing is completed.

**1.2            ACCESS TO WORK**

- .1 Allow inspection/testing agencies access to Work, offsite manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.

### **1.3 PROCEDURES**

- .1 Notify the appropriate agency and Departmental Representative in advance of the 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 the Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

### **1.4 REJECTED WORK**

- .1 All materials are to meet specifications upon inspection. Upon inspection, if materials are found not to meet specifications, materials will be rejected.

### **1.5 REPORTS**

- .1 Submit 4 copies of inspection and test reports promptly to Departmental Representative.
- .2 Provide copies to Subcontractor of work being inspected/tested, manufacturer/fabricator of material being inspected/tested.

### **1.6 TESTS AND MIX DESIGNS**

- .1 Furnish test results and mix designs.

### **Part 2 Products**

Not Used

### **Part 3 Execution**

Not Used

END OF SECTION

**Part 1 General**

**1.1 REFERENCE STANDARDS**

- .1 Canadian Standards Association (CSA International)
  - .1 CSA-A23.1/A23.2-[04], Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
  - .2 CSA-0121-[M1978(R2003)], Douglas Fir Plywood.
  - .3 CAN/CSA-S269.2-[M1987(R2003)], Access Scaffolding for Construction Purposes.
  - .4 CAN/CSA-Z321-[96(R2001)], Signs and Symbols for the Occupational Environment.
- .2 Public Works Government Services Canada (PSPC) Standard Acquisition Clauses and Conditions (SACC)-ID: R0202D, Title: General Conditions 'C', In Effect as of: May 14, 2004.

**1.2 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00- Submittal Procedures.

**1.3 INSTALLATION AND REMOVAL**

- .1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation. Potential yard sites shall be indicated on the drawings.
- .2 Identify areas which have to be gravelled to prevent tracking of mud. All gravelled areas shall have a geotextile separator between the existing ground and the gravel.
- .3 Indicate use of supplemental or other staging area.
- .4 Provide construction facilities in order to execute work expeditiously.
- .5 Remove from site all such work after use.

**1.4 HOISTING**

- .1 Provide, operate and maintain hoists and/or cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.
- .2 Hoists and/or cranes to be operated by qualified operator.

**1.5 SITE STORAGE/LOADING**

- .1 Confine work and operations of employees in accordance with the Contract Documents. Do not unreasonably encumber premises with products.
- .2 Do not load or permit to load any part of Work with weight or force that will endanger Work.

**1.6 SECURITY**

- .1 It is the responsibility of the Contractor to secure the site and its contents for the duration of the Contract.

**1.7 OFFICES**

- .1 Contractor to provide office heated to 22 C and cooled to 20 C, lighted and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table. Space shall be made available to the Departmental Representative when on site.
- .2 Provide marked and fully stocked first-aid case in a readily available location.
- .3 Subcontractors to provide their own offices as necessary.

**1.8 UTILITIES**

- .1 Contractor to provide all utilities necessary to carry out the Work and service the site office.

**1.9 SANITARY FACILITIES**

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep area and facilities in sanitary condition.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**



**Part 1            General**

**1.1               REFERENCE STANDARDS**

- .1      City of Brandon Temporary Traffic Control Manual
- .2      Manitoba Infrastructure
  - .1      Work Zone Traffic Control Manual.
  - .2      Associated Work Zone Policies

**1.2               PROTECTION OF PUBLIC TRAFFIC**

- .1      Comply with requirements of Acts, Regulations and By-Laws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out Work or haul materials or equipment.
- .2      When working on travelled way:
  - .1      Place equipment in position to minimize interference and hazard to travelling public.
  - .2      Keep equipment units as close together as working conditions permit and preferably on same side of travelled way.
  - .3      Do not leave equipment on travelled way overnight.
- .3      Close lanes of road only after receipt of written approval from Departmental Representative.
  - .1      Before re-routing traffic erect suitable signs and devices to Work Zone Traffic Control Manual.
- .4      Provide and maintain road access and egress to property fronting along Work under Contract and in other areas as indicated, except where other means of road access exist that meet approval of Departmental Representative.

**1.3               INFORMATIONAL AND WARNING DEVICES**

- .1      Provide and maintain signs and other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project Work which requires road user response.
- .2      Meet with Departmental Representative prior to commencement of Work to prepare list of signs and other devices required for project. If situation on site changes, revise list to approval of Departmental Representative.
- .3      Continually maintain traffic control devices in use:
  - .1      Check signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.
  - .2      Remove or cover signs which do not apply to conditions existing from day to day.

**1.4 CONTROL OF PUBLIC TRAFFIC**

- .1 Provide competent flag personnel for situations as follows:
  - .1 When public traffic is required to pass working vehicles or equipment that block all or part of travelled roadway.
  - .2 When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use.
  - .3 Where temporary protection is required while other traffic control devices are being erected or taken down.
  - .4 For emergency protection when other traffic control devices are not readily available.
  - .5 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.

**1.5 OPERATIONAL REQUIREMENTS**

- .1 Contractor shall maintain access for emergency vehicles and local traffic at all times.

**1.6 NOT USED**

- .1 Not Used.

**Part 2 Execution**

**2.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**Part 1            General**

**1.1                QUALIFICATIONS OF SURVEYOR**

- .1        Qualified registered land surveyor, acceptable to Departmental Representative.

**1.2                SURVEY REFERENCE POINTS AND LEGAL SURVEY MARKERS**

- .1        Existing base horizontal and vertical control points are designated on drawings.
- .2        Locate, confirm and protect control points and legal survey markers prior to starting site work. Preserve permanent reference points during construction.
- .3        Make no changes or relocations without prior written notice to Departmental Representative.
- .4        Report to Departmental Representative when a reference point or legal survey marker is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
- .5        Require surveyor to replace control points in accordance with original survey control.
- .6        Require surveyor to replace legal survey markers lost or destroyed as a result of construction activities.

**1.3                SURVEY REQUIREMENTS**

- .1        Establish two permanent bench marks on site, referenced to established bench marks by survey control points. Record locations, with horizontal and vertical data in Project Record Documents.
- .2        Establish lines and levels, locate and lay out, by instrumentation.
- .3        Stake for grading, fill and topsoil placement.
- .4        Establish pipe invert elevations.
- .5        Establish foundation and floor elevations.
- .6        Establish lines and levels for mechanical and electrical work.
- .7        Provide competent worker(s) to assist Departmental Representative with checking of layout measurement of quantities. Reserve worker(s) for this purpose and make available as required by Departmental Representative.

**1.4                RECORDS**

- .1        Maintain a complete, accurate log of control and survey work as it progresses.
- .2        On completion of foundations and major site improvements, prepare a certified survey showing dimensions, locations, angles and elevations of Work.

- .3 Contractor is to be responsible for conducting all record data surveys.
- .4 Contractor is to furnish Record drawings produced with Auto-CAD software based on record data collected during construction of the works.

## **1.5 SUBMITTALS**

- .1 Submit name and address of Surveyor to Departmental Representative.
- .2 On request of Departmental Representative, submit documentation to verify accuracy of field engineering work.
- .3 Submit certificate signed by Surveyor certifying that elevations and locations of completed Work are in conformance, or nonconformance with Contract Documents.

## **1.6 SUBSURFACE CONDITIONS**

- .1 Promptly notify Departmental Representative in writing if subsurface conditions at Site differ materially from those indicated in Contract Documents, or a reasonable assumption of probable conditions based thereon.

## **1.7 DEPARTMENTAL REPRESENTATIVE'S ASSISTANT AND STAKES**

- .1 Provide Departmental Representative with material (all stakes, batter boards, straight edges, and other materials), with the exception of technical instruments and apparatus, required by Departmental Representative to set lines and levels for Work.
- .2 Supply Departmental Representative with competent worker(s), as required, to assist in setting of lines and levels for Work.

## **1.8 EXISTING SURVEY MARKERS**

- .1 Replace legal survey markers, disturbed or removed by the construction operation, that existed at a horizontal distance of 1.5 m or more from the centreline of pipe being installed. If it is necessary to remove or disturb existing legal survey markers that are within 1.5 m of the pipe centreline, notify Departmental Representative before such removal or disturbance and replacement will be at Departmental Representative's expense.

## **Part 2 Products**

Not Used

## **Part 3 Execution**

Not Used

END OF SECTION

**Part 1 General**

**1.1 DEFINITIONS**

- .1 Approved/Authorized recycling facility: waste recycler approved by applicable provincial authority or other users of material for recycling approved by the Departmental Representative.
- .2 Class III: non-hazardous waste - construction renovation and demolition waste.
- .3 Construction, Renovation and/or Demolition (CRD) Waste: Class III solid, non-hazardous waste materials generated during construction, demolition, and/or renovation activities
- .4 Inert Fill: inert waste - exclusively asphalt and concrete.
- .5 Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .6 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .7 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .8 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:
  - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
  - .2 Returning reusable items including pallets or unused products to vendors.
- .9 Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .10 Separate Condition: refers to waste sorted into individual types.
- .11 Source Separation: act of keeping different types of waste materials separate beginning from the point they became waste.

**1.2 USE OF SITE AND FACILITIES**

- .1 Execute Work with minimal interference and disturbance to normal use of premises.
- .2 Maintain security measures established by facility provide temporary security measures approved by Departmental Representative.

**1.3 WASTE PROCESSING SITES**

- .1 Contractor is responsible to research and locate waste diversion resources and service providers. Salvaged materials are to be transported off site to approved and/or authorized recycling facilities or to users of material for recycling.

#### **1.4 STORAGE, HANDLING AND PROTECTION**

- .1 Store, materials to be reused, recycled and salvaged in locations as approved by Departmental Representative.
- .2 Unless specified otherwise, materials for removal become Contractor's property.
- .3 Protect, stockpile, store and catalogue salvaged items.
- .4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
- .5 Protect structural components not removed and salvaged materials from movement or damage.
- .6 Support affected structures. If safety of building is endangered, cease operations and immediately notify Departmental Representative.
- .7 Protect surface drainage from damage and blockage.
- .8 Provide on-site facilities and containers for collection and storage of reusable and recyclable materials.
- .9 Separate and store materials produced during project in designated areas.

#### **1.5 DISPOSAL OF WASTES**

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of waste into waterways, storm, or sanitary sewers.
- .3 Keep records of construction waste including:
  - .1 Total tonnage generated.
  - .2 Tonnage reused or recycled.
  - .3 Reused or recycled waste destination.
- .4 Remove materials on-site as Work progresses.
- .5 Prepare project summary to verify destination and quantities on a material-by-material basis as identified in the waste audit.

#### **1.6 SCHEDULING**

- .1 Co-ordinate Work with other activities at site to ensure timely and orderly progress of Work.

### **Part 2 Products**

#### **2.1 NOT USED**

- .1 Not used.

**Part 3            Execution**

**3.1                NOT USED**

.1            Not used.

**END OF SECTION**

**Part 1 General**

**1.1 REFERENCE STANDARDS**

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Province of Manitoba
  - .1 The Workers Compensation Act RSM 1987 - Updated [2013].

**1.2 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00- Submittal Procedures.
- .2 Submit site-specific Health and Safety Plan: Within seven (7) days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
  - .1 Results of site specific safety hazard assessment.
  - .2 Results of safety and health risk or hazard analysis for site tasks and operation.
- .3 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .4 Submit copies of incident and accident reports.
- .5 Submit WHMIS MSDS - Material Safety Data Sheets.
- .6 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within seven (7) days.
- .7 Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .8 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Departmental Representative.
- .9 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

**1.3 SAFETY ASSESSMENT**

- .1 Perform site specific safety hazard assessment related to project.

**1.4 MEETINGS**

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.



## **1.5 GENERAL REQUIREMENTS**

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

## **1.6 RESPONSIBILITY**

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.

## **1.7 COMPLIANCE REQUIREMENTS**

- .1 Comply with The Workplace Safety and Health Act C.C.S.M. c. W210, Workplace Safety and Health Regulation, 217/2006.
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

## **1.8 UNFORESEEN HAZARDS**

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of the Province of Manitoba and advise Departmental Representative verbally and in writing.

## **1.9 POSTING OF DOCUMENTS**

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Departmental Representative.

## **1.10 CORRECTION OF NON-COMPLIANCE**

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

## **1.11 BLASTING**

- .1 Blasting or other use of explosives is not permitted.

## **1.12 WORK STOPPAGE**

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

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**Part 2            Products**

**2.1                NOT USED**

.1            Not used.

**Part 3            Execution**

**3.1                NOT USED**

.1            Not used.

**END OF SECTION**