

1.0 GENERAL

1.1 Scope

1.1.1 Provide the submittals specified to the Engineer for review.

1.2 Requirements

1.2.1 Provide submittals sufficiently in advance of the scheduled incorporation of the items into the Work. Allow the Engineer up to fourteen (14) calendar days to carry out his review and return the submittals. Failure to submit in ample time is not considered sufficient reason for an extension of contract time.

1.2.2 Do not proceed with Work affected by the submittal until the review is complete and satisfactory.

1.2.3 Review submittals prior to submission to the Engineer. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with the requirements of the Work and the Contract Documents. Submittals not stamped, signed, dated and identified as to the specific project will be returned without being examined and will be considered rejected.

1.2.4 Bear full responsibility for; verification and correlation of field dimensions, fabrication processes and techniques of construction as well as installation of all parts of the Work and co-ordination of all Sub-contractors.

1.2.5 Contractor's responsibility for errors and omissions in submission is not relieved by the Engineer's review of submittals.

1.2.6 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by the Engineer's review.

1.2.7 Keep one reviewed copy of each submission on Site.

1.3 Construction Schedule

1.3.1 Prepare schedule in the form of a horizontal bar chart.

1.3.2 Provide a separate bar for each trade or operation. Show proposed progress of all activities for main work items and subtrades of Contract. Where applicable show delivery dates of major pieces of equipment.

1.3.3 Submit three (3) copies of initial schedule within ten (10) calendar days from the date of acceptance of Tender.

- 1.3.4 Engineer will review schedule and return reviewed copy within fourteen (14) calendar days after receipt. The review of the construction schedule by the Engineer is not to assess the practicality of sequence or scheduling of proposed operations. This is the responsibility of the Contractor. The review of the schedule by the Engineer is to generally satisfy himself that some time has been allotted for all parts of the Work. This schedule will be used by the Engineer to compare the progress of construction with the scheduled dates.
- 1.3.5 Resubmit finalized schedule within seven (7) days after return of reviewed copy.
- 1.3.6 Distribute copies of the finalized schedule to:
- Job site office
 - Subcontractors
 - Other concerned parties
 - Engineer
 - Owner
- 1.3.7 Instruct recipients of the finalized schedule to report any problems anticipated by the timetable shown in the schedule to the Contractor.
- 1.3.8 Revise and resubmit the finalized schedule within five (5) days after notification by Engineer that this schedule is not being met. Show changes in operations proposed to complete Work within Contract Time.
- 1.3.9 If, during course of work, Contract Time is extended, correct the construction schedule to show revised commencement and completion dates of all affected parts of the Work.
- 1.3.10 No progress payment will be approved until receipt of a schedule acceptable to the Engineer.
- 1.4 Shop Drawings and Product Data
- 1.4.1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by the Contractor to illustrate details of a portion of the Work.
- 1.4.2 Detail all shop drawings using the metric system. Prepare to a drafting standard equivalent to the Contract drawings.
- 1.4.3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, wiring diagrams, panel layouts with bills of
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- material, explanatory notes and other information necessary for completion of Work.
- 1.4.4 Adjustments made on shop drawings by the Engineer are not intended to change the Contract Amount. If adjustments affect the value of Work, state such in writing to the Engineer prior to proceeding with the Work.
- 1.4.5 Make such changes in shop drawings as the Engineer may require, consistent with Contract Documents. When resubmitting, notify the Engineer in writing of any revisions other than those requested.
- 1.4.6 Submit six copies of product data sheets or brochures for requirements requested in specification Sections and as the Engineer may reasonably request where shop drawings will not be prepared due to standardized manufacture of product. Facsimile copies or poor quality reproductions will not be accepted as shop drawings. Submissions are to be originals or high quality reproductions. For information on highly detailed equipment or parts breakdowns or cutaways, the required submission size is A1 metric standard.
- 1.5 Shop Drawing Review Stamp
- 1.5.1 Shop drawings reviewed by the Engineer will be stamped with a shop drawing review stamp. This stamp will be noted with the results of this review as follows:
- .1 **REVIEWED. MFG MAY PROCEED** - Indicates that the information submitted describes material or equipment which apparently satisfies the intent of the Contract Documents and, that if the Contractor has satisfied himself that the equipment or material is satisfactory, the Engineer would have no objection to it being produced or procured.
 - .2 **REVIEWED AS MODIFIED. MFG MAY PROCEED, SUBMIT FINAL DRAWING** - Is identical to .1 above, except that the Engineer has noted discrepancies in the information submitted. The discrepancies in the information require correction and resubmission of wholly correct information.
 - .3 **REVISE AND RESUBMIT. MFG MAY NOT PROCEED** - Indicates that the Engineer has noted discrepancies in the information submitted. These discrepancies, in his opinion, indicate that the material or equipment described do not fully meet the intent of the Contract Documents and are of a sufficiently significant nature that production or procurement of the equipment or material is not acceptable.

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- .4 **NOT REVIEWED** - Indicates that the information submitted is not required under the requirements of the Contract Documents, or is unsatisfactory, and therefore has not been and will not be reviewed by the Engineer.
- 1.5.2 Use only those shop drawings on the Work that bear the "REVIEWED. MFG MAY PROCEED" notation.
- 1.5.3 Do not revise shop drawings marked "REVIEWED. MFG MAY PROCEED" unless resubmitted to the Engineer for further review.
- 1.5.4 Where more than one type of shop drawing has been specified for one item, e.g. wiring diagrams, layout details, and dimensional drawings, the shop drawings shall be submitted together, to enable the Engineer to review the drawings as a package.
- 1.5.5 Catalogue pages or drawings applicable to an entire family or range of equipment will not be accepted as shop drawings unless they are clearly marked to show the pertinent data for the particular Product.
- 1.5.6 When assigned in the Contract Documents - tag numbers of instruments, valves or any other equipment are to be clearly indicated on the shop drawings submitted for them. These drawings must clearly show the features and details specifically applicable to the item being supplied.
- 1.5.7 Determine which shop drawings have, in addition to those drawings specifically mentioned in the Contract, design elements requiring the seal of a Professional Engineer registered in the Province or Territory where the Work is located, in accordance with the applicable provincial or federal engineering acts or other governing legislation. Seal such drawings before submitting them for review. Submit for review engineering calculations signed by the registered Professional Engineer responsible for the shop drawing design elements.
- 1.5.8 The Owner may deduct from payments due to the Contractor any costs of additional engineering work incurred if corrected shop drawings are not submitted after initial review by the Engineer.
- 1.5.9 Review by the Engineer is for the sole purpose of ascertaining conformance with the general design concept. This review does not mean that the Engineer approves the detail design inherent in the shop drawings. Responsibility for this remains with the Contractor and such review does not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or, of his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job-site, for information that pertains solely to fabrication processes or to techniques of construction and installation,
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and for coordination of the Work of all sub-trades.

1.6 Materials Testing Results

1.6.1 Promptly provide the results of all specified material testing to the Engineer.

1.6.2 Do not proceed with Work which would result in the loss of access to, increase of loading on, or other condition that would remove the ability to correct deficiencies of Product or installation for which testing has been specified until the testing results are received and reviewed by the Engineer.

1.6.3 Bear all costs for the correction of deficiencies of Product or installation revealed by specified testing or inspection.

2.0 PRODUCTS

None in this Section

3.0 EXECUTION

None in this Section

1.0 GENERAL

1.1 Scope of Work

1.1.1 This section defines the requirements for meetings for this Contract.

1.2 Pre-Construction Meeting

1.2.1 Within ten (10) days after award of Contract, the Engineer will request a pre-construction meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.

1.2.2 Representatives of the Owner, Engineer, Contractor, Major Subcontractors, Field Inspectors and Supervisors must be in attendance.

1.2.3 After time and location of this meeting has been established, the Contractor shall notify all parties concerned minimum four (4) days before the meeting.

1.2.4 The Engineer will chair and record discussions and decisions, and circulate the minutes to all parties concerned.

1.2.5 Agenda to include the following:

- .1 Safety.
- .2 Appointment of official representatives of participants in the work.
- .3 Schedule of the work, progress scheduling (Section 01311).
- .4 Schedule of submission of shop drawings, samples, colour chips (Section 01311).
- .5 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, and fences (Section 01500).
- .6 Delivery schedule of specified equipment (Section 01311).
- .7 Site security (Section 01500).
- .8 Contemplated change notices and change order, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements (GC).
- .9 Record drawings (Section 01700).
- .10 Take-over procedures, acceptance, warranties (Section 01700) – Monthly progress claims, administrative procedures, photographs, holdbacks (GC).
- .11 Appointment of inspection and testing agencies or firms (Section 01450).
- .12 Insurances, transcript of policies (GC).

1.3 Progress meetings

- 1.3.1 Schedule and administer progress meetings throughout the progress of the work every two weeks.
- 1.3.2 Agenda for progress meetings to include the following:
 - .1 Safety.
 - .2 Review and approval of minutes of previous meeting.
 - .3 Review of work progress since previous meeting.
 - .4 Field observations, problems, conflicts.
 - .5 Problems which impede construction schedule.
 - .6 Review of off-site fabrication delivery schedule.
 - .7 Corrective measures and procedures to regain projected schedule.
 - .8 Revisions to construction schedule.
 - .9 Progress, schedule, during succeeding work period.
 - .10 Review submittal schedules: expedite as required.
 - .11 Maintenance of quality standards.
 - .12 Pending changes and substitutions.
 - .13 Review proposed changes for effect on construction schedule and on completion date.
 - .14 Other business.
- 1.3.3 Distribute written notice of the first meeting four (4) days in advance of meeting date to Engineers, Owner and Major Subcontractors.
- 1.3.4 Provide physical space, table and chairs for all participants.
- 1.3.5 The Engineer will preside at progress meetings.
- 1.3.6 The Engineer shall record the minutes of progress meetings. Significant proceedings and decisions will be included. The minutes will identify "action by" parties and date for completion of duty.
- 1.3.7 Representatives of Contractor, Subcontractor and Suppliers attending meetings must be qualified and authorized to act on behalf of the party each represents.

2.0 PRODUCTS

None in this Section

3.0 EXECUTION

None in this Section

1.0 SCHEDULE

- 1.1 Within ten (10) days after acceptance of Tender, prepare and submit a detailed schedule for review to the Engineer.
- 1.2 Schedule shall show dates of commencement and completion of various parts of the work, ordering and delivery dates of Products, phasing and timing for various subcontracts and all other detailed information to the satisfaction of the Engineer.
- 1.3 All orders for materials shall be placed in ample time for adherence to the schedule.
- 1.4 Make special note of those times when extra work shifts are required to complete the work.
- 1.5 Prepare definitive schedules for the following specific items:
 - .1 Product delivery.
 - .2 Schedule of all shop drawings required.
 - .3 Schedule of all samples required.
 - .4 Schedule of material deliveries.
 - .5 Schedule of construction phases.
 - .6 Requirements for special site instructions, colour schedules, etc.
- 1.6 Revise and update schedule and submit to Engineer every two weeks.

2.0 PROGRESS REPORTS

- 2.1 Maintain an accurate record of the progress of the work.
- 2.2 Records shall state dates of commencement and percentage of work completed by trades for the different parts of the work and include particulars regarding daily weather conditions, number of workers for each trade, percentage of work completed weekly by trades and shall relate to the Schedule. Make records available to Engineer upon request.

3.0 MANPOWER/OVERTIME

- 3.1 Should the work fail to progress according to the approved progress schedule, work such additional time (including weekends and holidays), employ additional workers, or both, as may be required to bring the work back on schedule, at no additional cost to the Owner.

- 3.2 Night work will be permitted only with written permission of the Engineer and in accordance with existing municipal regulations. Provide sufficient lighting to permit night work to be performed safely and satisfactorily.

- 3.3 If this Contractor causes delay to another Contractor or Owner, this Contractor shall bear all costs of expediting the work of such other Contractor or the Owner.

1.0 GENERAL

1.1 Scope

- 1.1.1 This section refers to the supply, administration and maintenance of traffic accommodation and control.

1.2 Requirements

- 1.2.1 Be responsible for all vehicular and pedestrian traffic accommodation on a 24 hours per day, 7-day per week basis for the entire term of the Contract including all holidays. Guide traffic in the manner shown in the Contract Documents.

2.0 PRODUCTS

2.1 Traffic Signs and Devices

- 2.1.1 Provide construction signing, delineation and barricading that conforms to the most recent editions of the City of Regina's Manual for Temporary Traffic Control, and Transportation Association of Canada's Manual of Uniform Traffic Control Devices.
- 2.1.2 Provide traffic control devices having a 3M or equivalent high intensity grade or higher, reflective sheeting. All WD-A41 signs to be fluorescent diamond grade reflective sheeting.

2.2 Jersey Barriers

- 2.2.1 The City of Regina has a limited supply of concrete jersey barriers for use by the Contractor. Available barriers may be used at no charge. Be responsible for the cost of transporting and handling the barriers.

2.3 Flagpersons

- 2.3.1 Flagpersons must be holders of a certificate of training in work zone flagging from Saskatchewan Highways and Transportation or equivalent. Flagpersons are required for but not limited to the following situations:
- .1 Trucks entering the travelled way from the work zone.
 - .2 Emergency protection or other traffic control devices are not available or are not functional or are inadequate for the conditions.
 - .3 A minimum buffer of 3.0 metres cannot be provided between workers and a traveled roadway.
 - .4 As directed by the Engineer.

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- 2.3.2 Equip and outfit flagpersons as specified in the most recent edition of the Manual of Uniform Traffic Control Devices including clean white apparel, a reflective vest and a hard hat.

3.0 EXECUTION

- 3.1 Detour or restrict traffic as shown on in the Contract Documents unless otherwise approved by the Engineer. In case of emergency, immediately provide appropriate traffic accommodation and obtain approval as soon as possible.
- 3.2 Protect all obstructions and excavations remaining overnight with barricades, concrete jersey barriers, barrels, or any combination thereof. Equip all of the foregoing with reflective material and flashers.
- 3.3 Keep travelled way clear of debris and of sufficient width for the required number of lanes of traffic.
- 3.4 Maintain at least one road access and egress to all private properties abutting Place(s) of Work unless otherwise directed by the Engineer.
- 3.5 Review the traffic accommodation requirements with Traffic Division and the Project Engineer prior to proceeding with actual installation.
- 3.6 Periodically adjust accommodations as required to suit changing site conditions. Changes must meet the approval of the Engineer.
- 3.7 When using private roadways or private property:
- .1 Obtain the express written consent of the landowner.
 - .2 Repair any damages to land, crops and fences resulting from use the use, to the satisfaction of the landowner.
 - .3 Provide confirmation to the Project Engineer that the private property has been left in a condition satisfactory to the landowner at the conclusion of the Work.
- 3.8 Produce and deliver written notification to each place of business and residence that will be affected by planned street closures or parking restrictions at least 7 days prior to implementing them. Notice must contain a brief description of the work, start date and estimated duration of the project and a contact name and phone number if further explanation is desired.
- 3.9 If the traffic accommodation plan allows pedestrians to pass through the Work area, provide safe passage for them by effectively separating the pedestrian corridor from construction vehicles and equipment.
- 3.10 Do not store more Product on the roadway than is required for the task at hand. Storage of excavated material on the roadway is prohibited unless authorized by the

Project Engineer.

- 3.11 Install all necessary traffic control devices, including information signs, prior to closing any portion of the road.
- 3.12 Clean and maintain all traffic control devices as required on a 24-hour basis seven days a week including Sundays and holidays. Provide the City's Dispatch Office (777-6943) with the name and telephone number for an emergency service contact person. Ensure that the contact person understands the requirement to be available and is equipped with a cellular telephone. Ensure that the contact person has the experience and knowledge to deal with emergency situations.
- 3.13 Promptly cover or remove traffic control devices that conflict with the temporary conditions in force.
- 3.14 Inspect the traffic control devices daily, identify any deficiencies, and keep a record of the inspections. Immediately replace or clean any traffic control devices found to be deficient.
- 3.15 Provide stand mounted signs and secure stands with rubber weights, sandbags or suitable posts firmly embedded in the ground. Signs are not permitted on barricades. Place signs so they are clearly visible to approaching traffic.
- 3.16 Orange speed limit signs may be installed only with written approval from Traffic Division or, if their use is specifically shown in the Contract Documents. These signs carry the same legal authority as white regulatory speed limit signs.
- 3.17 Failure to provide, properly place or maintain the required accommodation equipment or personnel may result in the issuance of a stop work order until the problem is rectified. No claims will be considered for either costs incurred or extensions to the Contract completion date as a result of such order.
- 3.18 Promptly cover or uncover traffic control devices to reflect their applicability as conditions change.
- 3.19 Ensure that flagpersons wear the required safety equipment and apparel at all times while on duty and, that they are mentally alert, skilled in their duties, courteous, and well supervised.

1.0 GENERAL

1.1 Compliance with Regulations

1.1.1 Ascertain requirements and regulations of authorities listed.

1.1.2 Comply with all such requirements and regulations as applicable to the Work.

1.1.3 Requirements set out in this Section are for guidance and information and are not necessarily complete.

1.2 Regulations Included

1.2.1 Regulations affecting the Work are imposed by:

.1 City of Regina

.2 Department of Highways and Transportation

.3 Canadian Transportation Agency

.4 Saskatchewan Environment

.5 SaskEnergy Incorporated

.6 SaskWater

.7 SaskTel

.8 Saskatchewan Energy Incorporated

.9 Environment Canada

.10 Saskatchewan Labour

.11 Industry (Canada)

.12 Transport Canada

.13 National Energy Board

.14 Wascana Centre Authority

.15 National Building Code of Canada 1995

.16 Canadian Plumbing Code of Canada 1995

- .17 Rural Municipality of Sherwood
- .18 Rural Municipality of Edenwold
- .19 Rural Municipality of Pense
- .20 Rural Municipality of Moose Jaw
- .21 Rural Municipality of Lumsden
- .22 Canadian National Railway Company
- .23 Canadian Pacific Limited

2.0 PRODUCTS

None in this Section

3.0 EXECUTION

None in this Section

1.0 GENERAL

1.1 Latest Editions

- 1.1.1 All references to specifications, standards, or methods of technical associations refer to the latest adopted revision, including all amendments, in effect on the date of submission of bids, except where a date or issue is specifically noted.

1.2 Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AFBMA	Antifriction Bearing Manufacturers Association
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AISC	American Institute of Steel Construction
AMCA	Air Moving and Conditioning Association
ANSI	American National Standards Institute
API	American Petroleum Institute
ARI	Air Conditioning and Refrigeration Institute
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWMAC	Architectural Woodworkers Manufacturers Association of Canada
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association
CAN	Canadian National Standard
CBM	Certified Ballast Manufacturers
CBTIC	Clay Brick and Tile Institute of Canada
CEC	Canadian Electrical Code
CEMA	Canadian Electrical Manufacturers Association
CGA	Canadian Gas Association
CGRA	Canadian Good Roads Association
CGSB	Canadian General Standards Board
CISC	Canadian Institute of Steel Construction
CITC	Canadian Institute of Timber Construction
CLA	Canadian Lumbermen Association
CMAA	Crane Manufacturers Association of America
CMHC	Canada Mortgage and Housing Corporation
CPCA	Canadian Painting Contractors Association
CPCI	Canadian Prestressed Concrete Institute
CRCA	Canadian Roofing Contractors Association
CRSI	Concrete Reinforcing Steel Institute

CSA	Canadian Standards Association
CSSBI	Canadian Sheet Steel Building Institute
CUA	Canadian Underwriters Association
CWB	Canadian Welding Bureau
CWC	Canadian Wood Council
CSPI	Corrugated Steel Pipe Institute
EI	Edison Electric Institute
EEMAC	Electrical and Electronic Manufacturers of Canada
FFPC	Federal Fire Prevention Committee
FM	Factory Mutual Engineering Corporation
IAO	Insurers' Advisory Organization
IBRM	Institute of Boiler and Radiator Manufacturers
IEC	International Electrotechnical Commission
IEE	Institution of Electrical Engineers (U.K.)
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
IGMAC	Insulated Glass Manufacturers Association of Canada
IPCEA	Insulated Power Cable Engineers Association
ISA	Instrument Society of America
ISO	International Standardization Organization
LEMA	Lighting Equipment Manufacturers Association
LTIC	Laminated Timber Institute of Canada
MMA	Millwork Manufacturers Association
NAAMM	National Association of Architectural Metal Manufacturers
NACE	National Association of Corrosion Engineers
NBC	National Building Code of Canada
NEC	National Electrical Code
NESC	National Electric Safety Code
NFPA	National Fire Protection Association
NLGA	National Lumber Grade Authority
NSF	National Sanitation Foundation
OECI	Overhead Electrical Crane Institute
OH & S	Occupational Health and Safety
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
RLM	RLM Standards Institute
RTAC	Road and Transportation Association of Canada
SAE	Society of Automotive Engineers
SBI	Steel Boilers Institute
SJI	Steel Joist Institute
SSPC	Steel Structures Painting Council
TTMAC	Terrazzo, Tile and Marble Association of Canada
ULC	Underwriters' Laboratories of Canada
USFG	United States Federal Government
WCB	Workers' Compensation Board

1.3 Conformance

- 1.3.1 Conform to these standards, in whole or in part as specifically requested in the specifications.
- 1.3.2 If there is question as to whether any product or system is in conformance with applicable standards, the Engineer reserves the right to have such products or systems tested to prove or disprove conformance.
- 1.3.3 The Owner will bear testing costs where the results of testing confirm conformance. In the event of determination of non-conformance, the Contractor will be required to bear all costs.

2.0 PRODUCTS

None in this Section

3.0 EXECUTION

None in this Section

1.0 GENERAL

1.1 Definitions

- 1.1.1 *Quality Control* is defined as actions taken by a supplier or Contractor to provide control over what is being done and what is being provided so that applicable standards of good practice for the Work are followed.
- 1.1.2 *Quality Assurance* is defined as actions taken by the Owner or his representative to provide assurance that what is being done and what is being provided are in accordance with the applicable standards of good practice for the Work.
- 1.1.3 *Witness Point* is defined as any event identified by the Engineer within the construction schedule, which requires inspection or sampling by the Engineer before the Contractor continues the Work.

1.2 Quality Control

- 1.2.1 Strictly adhere to the specifications and standards of quality specified within the Contract Documents in addition to those customary in the industry where no specific requirement is made.
- 1.2.2 Prepare a quality control plan for the Work to be submitted to the Engineer within 14 calendar days of Notice of Award. The plan must state the parties who will be performing the tests, those tests that will be included and the sampling frequency of each of the tests.
- 1.2.3 Forward copies of results of the aforementioned tests to the Engineer within forty-eight (48) hours of performing the test.
- 1.2.4 The Engineer, at his sole discretion, may direct the location and timing of the sampling by the Contractor.
- 1.2.5 All Work, whether or not listed within the Quality Control Plan, is subject to surveillance that may be witnessed at the discretion of the Engineer. Provide the Engineer full and free access to the place of business of the Contractor or any designated testing agency for such quality surveillance.
- 1.2.6 Notify the Engineer a minimum of two working days prior to the occurrence of scheduled witness points identified within the Contractor's construction schedule.
- 1.2.7 Provide the Engineer with safe and adequate access, assistance and cooperation as well as all drawings, documents and samples, including stoppage of Work, necessary to perform such examination and assure full compliance with the requirements of this Contract.

- 1.2.8 The failure to make such quality surveillance or to discover defective workmanship in no way relieves the Contractor of its obligations under this Contract. Such failure also does not prejudice the rights of the Owner to subsequently reject or require the correction of defective Work in accordance with provisions of the Contract.
- 1.2.9 Bear all costs of re-inspection and/or testing of rejected Work.
- 1.2.10 Collect, maintain and submit quality control data, analyses and reports along with the record drawings and/or operating and maintenance manuals as required by the Contract. Refer to sections 01300 and 01790.

1.3 Quality Assurance

- 1.3.1 The Engineer may take samples and conduct laboratory tests on materials and the finished product. Such tests are for the purpose of assuring compliance with the specifications. If any test results indicate non-compliance, the Engineer, at his sole discretion, may instruct the Contractor to cease all Work until corrective measures are implemented that meet the requirements.
- 1.3.2 The Engineer may, at his sole discretion, make available test results to the Contractor for information purposes. The Contractor makes use of this information at his own discretion and can not rely on the correctness or accuracy of those results as a substitute for a quality control program.
- 1.3.3 The Engineer will identify to the Contractor any witness points required within the construction schedule a minimum of two (2) working days before the scheduled date.
- 1.3.4 The Engineer may add or delete witness points based on changes to designs, specifications or processes, observations made during inspection, or other conditions that could affect quality verification.

2.0 PRODUCTS

None in this Section

3.0 EXECUTION

3.1 Material Testing

- 3.1.1 Select an independent, material testing laboratory to carry out inspection and testing of materials. Obtain Engineer's approval of selected laboratory.

- 3.1.2 Testing laboratory to select locations for backfill density tests in consultation with the Engineer. Submit test results to the Engineer within 24 hours of each test. Laboratory to retest immediately in all locations where initial test results fail to meet the specified requirements.
- 3.1.3 Minimum requirements for material testing to include but not be limited to:
 - .1 Concrete – air content, slump, and compressive strength, minimum one test per day.
 - .2 Granular material for pipe zone and road base – Standard Proctor Density, minimum one test per 25 linear metres.
 - .3 Insitu material for compacted trench backfill – Standard Proctor Density, minimum one test per 25 linear metres.
- 3.1.4 Testing frequencies and types called for in the Contract Documents in excess of or in addition to those listed above shall govern.

1.0 GENERAL

1.1 Scope

1.1.1 Provide temporary facilities required to perform the Work in accordance with the requirements of this section.

1.2 Parking, Staging and Laydown Areas

1.2.1 Locate, obtain and pay for rental, lease or acquisition of temporary parking, staging and laydown areas required for personnel, equipment and Products.

1.2.2 Maintain areas in an accessible and orderly condition at all times.

1.2.3 Adhere to local ordinances and bylaws relating to parking, storage, vehicle weights, noise and traffic flow for the area(s).

1.2.4 Upon completion of Work, restore areas to at least the condition which existed before their use for this purpose and to the satisfaction of the landowner or the Engineer.

1.3 Storage

1.3.1 Provide and pay for temporary storage facilities. Facilities to be secure, weathertight and capable of providing and maintaining proper storage conditions in accordance with the manufacturer's instructions for each Product being stored.

1.4 Temporary Power

1.4.1 Arrange and pay for portable or temporary power required during construction including power for the Engineer's site office if an office is specified.

1.4.2 Equip temporary generator units with residential type silencers or other means to attenuate operating noise to levels acceptable to the Engineer.

1.5 Temporary Heating

1.5.1 Provide temporary heating required for performance of the Work including all heating equipment, fuel, power, maintenance and attendance.

1.5.2 Provide continuous ventilation adequate to keep areas evenly heated, free of exhaust or combustion gasses and noxious fumes.

- 1.5.3 Combustion type construction heaters to be flameless type or they must be vented directly outside.
- 1.5.4 Use of solid fuel salamanders is not permitted.
- 1.6 Dewatering
 - 1.6.1 Provide and pay for all required temporary drainage, collection and pumping facilities and labour required to maintain excavations, trenches, staging areas and Place of Work free of standing water.
- 1.7 Water Supply
 - 1.7.1 Provide and pay for supply and storage of suitable quality water for construction operations.
 - 1.7.2 Provide and pay for supply and storage of potable quality water for human use. Maintain facilities to potable standards.
- 1.8 Sanitary Facilities
 - 1.8.1 Provide and pay for sanitary facilities for personnel as stipulated by applicable legislation and local ordinances.
 - 1.8.2 Maintain all sanitary facilities in a clean, orderly, fresh and well stocked condition. Provide all required sanitary supplies.
- 1.9 First Aid Facilities
 - 1.9.1 Provide a completely equipped First-Aid facility at the Place of Work which meets or exceeds the equipment and staffing requirements of the Industrial First-Aid Regulations of the Worker's Compensation Board. Situate the facility in a location readily accessible at all times to all employees of any firm involved in the Work of the Contract. Maintain the facility in a clean, orderly and fully stocked condition at all times.
- 1.10 Telephone
 - 1.10.1 Provide and pay for temporary telephone service to a site office if one is provided or, for a cellular telephone for the job superintendent if a fixed site office is not provided. Fixed office telephone to be equipped with an outside sounding device adequate to alert personnel on the site of an incoming call. Site office phone to be provided with an answering machine or message manager service.
 - 1.10.2 Provide and pay for a temporary telephone service (pay phone not acceptable) and a fax machine for the Engineer's site office where one is

specified. Engineer's office phone to be provided with an answering machine or message manager service. The Engineer will pay for all long distance calls placed from this phone.

- 1.10.3 For locations where fixed telephone service is not readily available, provide and pay for cellular telephone service for the job superintendent and any resident inspector.

1.11 Project Construction Sign

- 1.11.1 Signs are to be in accordance with Standard drawings T100, T101 and T102 of the City of Regina – Manual for Temporary Traffic Control.

- 1.11.2 Signs are to be securely mounted on and affixed to at least two, minimum 150 x 150 mounting posts. Posts are to be a minimum of 4.0 metres long. Embed posts 1000 mm into the ground and thoroughly compact backfill surrounding each post. Alternately, pour posts in place with "fillcrete".

- 1.11.3 Clearance under signs to be minimum 1500 mm.

- 1.11.4 Mount sign(s) at location(s) directed by the Engineer or as shown on the drawings.

- 1.11.5 Keep sign(s) clean and legible for the duration of the Work.

- 1.11.6 Upon completion of the Work, remove the sign(s) and restore any areas disturbed by sign installation.

2.0 PRODUCTS

None in this Section

3.0 EXECUTION

None in this Section

1.0 GENERAL

1.1 Scope

1.1.1 This section refers to the conditions of supply, handling and storage for all materials and equipment (Product) to be incorporated in the Work.

1.2 Title to Product

1.2.1 Title to all Product shall, unless otherwise agreed in writing, vest to the Owner absolutely upon its delivery to the Place of Work or upon payment therefore, whichever occurs first. Title to Product which the Engineer rejects or orders removed from the Place of Work immediately reverts to the Contractor upon issuance of notice of rejection or order for removal.

1.2.2 Bear full responsibility for the care and custody of all Product delivered to the Place of Work

1.3 Availability

1.3.1 Compare quoted delivery dates with proposed installation schedule requirements for the purpose of identifying foreseeable conflict for all Product to be incorporated in the Work. Make all reasonable effort to rectify conflicts. Promptly notify the Engineer of any unresolvable conflict so that substitution or other remedial action may be considered in ample time to prevent delay in performance of the Work.

1.4 Product Quality

1.4.1 Product forming any part of the Work are to be new, undamaged and free from defects unless the Engineer or the Contract Documents specifically authorizes deviation from these standards.

1.4.2 Product found to be defective must be removed from the Work regardless of whether or not the Product had been previously inspected. Inspection does not relieve responsibility. It is viewed as a precautionary measure which attempts to protect against oversight or error that results in acceptance of defective Product delivered to the Place of Work.

1.4.3 Promptly remove defective or unacceptable Product from the Work and replace with acceptable Product. Bear all costs for removal and replacement and for any delays or additional expense related to the rejection.

- 1.5 Storage, Handling and Protection
 - 1.5.1 Handle, transport and store all Product as recommended by the supplier and in a manner which will prevent loss, damage, adulteration, deterioration or soiling.
 - 1.5.2 Store packaged or bundled Product in original and undamaged condition with manufacturer's seals and labels intact.
 - 1.5.3 Provide secure storage which will reasonably prevent damage from vandalism or loss by theft and maintain ambient conditions necessary to prevent damage due to freezing, condensation or exposure to the elements.
- 1.6 Manufacturer's Instructions
 - 1.6.1 Unless specifically instructed otherwise in these documents, install Product in strict accordance with the manufacturer's instructions. Obtain written instructions directly from the manufacturer.
 - 1.6.2 Promptly notify the Engineer of any conflicts noted between the Contract Documents and the manufacturer's instructions. Do not proceed with the installation or operation until clarification is received and understood. Damage, delay and liability arising from proceeding with installation or operation of Product without either full knowledge or understanding of how it was to be done or, caused by deviation from the manufacturer's instructions is entirely the responsibility of the Contractor.
- 1.7 Transportation
 - 1.7.1 Bear all costs for transportation and insurance to the Place of Work for all Product not supplied by the Owner and for all Product pre-purchased and assigned by Novation Agreement.
 - 1.7.2 The Owner will bear the cost of transportation and insurance to the Place of the Work for all Product supplied by the Owner unless assigned to the Contractor by Novation Agreement or, unless specifically stated otherwise.

2.0 PRODUCTS

None in this Section

3.0 EXECUTION

None in this Section

1.0 GENERAL

1.1 Scope

1.1.1 Carry out the completion of the Contract in accordance with the requirements of this section.

1.2 Related Requirements

1.2.1 Commissioning – Section 01810

1.2.2 Operations and Maintenance Manuals – Section 01790

1.2.3 General Conditions, Special Provisions, specifications of the Contract, fiscal provisions, legal submittals, technical requirements and warranty obligations.

2.0 PRODUCTS

None in this Section

3.0 EXECUTION

3.1 Cleaning

3.1.1 When the Work is held to be Substantially Complete; remove surplus products, tools, construction machinery or equipment, hoardings, barricades, temporary fences, furniture and structures which are not required for the completion of any remaining Work.

3.1.2 Remove waste products and debris and leave the Place of Work in a condition which is suitable for occupancy and/or use by the Owner. Dispose of debris and surplus materials in accordance with the regulations of the jurisdiction and all requirements included in this Contract. Restore all damaged landscaping, fencing and signage and complete all new landscaping, fencing and signage.

3.2 Substantial Completion

3.2.1 Prior to submission requesting Substantial Completion, carefully inspect the Work and ensure it complies with the requirements for Substantial Completion under the Builder's Lien Act as described in the General Conditions-Section 00600 and;

3.2.2 Submit a written application for Final Inspection to the Engineer. Arrange and coordinate the attendance of all Subcontractors and specialists required to demonstrate and verify the completion and operation of all systems as designated by the Engineer. Promptly and

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- thoroughly correct all deficiencies noted during this inspection.
- 3.2.3 Submit all required documentation such as licenses, inspection certificates, clearances and warranties as stipulated in the General Conditions-Section 00600 and as required by all authorities having local jurisdiction.
- 3.2.4 Unless specifically agreed to or stipulated otherwise, warranty periods will be deemed to commence from the date(s) of Substantial Completion of the project or portion(s) of the project.
- 3.2.5 Arrange and coordinate the instruction of the Owner's staff in the operation, care and maintenance of equipment, systems and finishes.
- 3.3 Documents
- 3.3.1 When the provision of an Operations and Maintenance manual is a requirement of the Contract, refer to Section 01790 for the requirements pertaining to submission and review of the manual in advance of application for Substantial Completion.
- 3.3.2 Provide the Engineer with at least one complete set of field record plans which contain a complete record of revisions made in the field including actual field dimensions where they differ from the construction plans. All markups are to be done in a legible fashion with explanations or additional diagrams where required.
- 3.3.3 Provide the Engineer with one complete, neatly bound set of project photographs. Each photograph to be labelled as to location and date.
- 3.3.4 Ensure installation of panelboard circuit directories in all panels. Handwritten directories are not acceptable.
- 3.3.5 Execute transition of Labour and Materials Payment and Performance Bonds to correspond to warranty period requirements.
- 3.4 Total Performance
- 3.4.1 When the Work is held to be Totally Performed ensure that all tools, machinery and equipment used for construction have been removed. Leave the Place of Work broom clean and remove spots, stains, marks and dirt from decorative work and visible locations. Thoroughly clean and polish all fitments, fixtures, furniture and hardware.
- 3.4.2 Clean, wash and/or sweep clean all exterior surfaces including steps, walks, ramps and paved areas. Landscaped and unfinished areas to be rake clean.

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- 3.4.3 Ensure that all systems are operational and are adjusted to normal setpoints.
 - 3.4.4 Provide the Engineer with the specified number of Operations and Maintenance manuals. Manuals must be complete in all respects, in the specified format and binding, and entirely acceptable to the Engineer.
 - 3.4.5 To obtain Total Performance of the Contract and issuance of the Final Progress Payment refer to the General Conditions for an explanation of the requirements to do so.