
DIVISION 01 - GENERAL REQUIREMENTS

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PART 1 GENERAL

The Standard Specifications for this contract are published on-line by the Town of Canmore, the City of Calgary, or other relevant bodies as noted. Applicable specifications include but are not limited to:

- Town of Canmore Engineering Design and Construction Guidelines, latest edition
- City of Calgary Roads Construction Standard Specifications, latest edition
- City of Calgary Standard Specifications Waterworks Construction, latest edition
- City of Calgary Standard Specifications Sewer Construction, latest edition.

Where a specification is not provided in the following document, the applicable Town of Canmore Specification shall be used. Where there is a conflict between the Town of Canmore Specifications and the following provisions, the governing hierarchy shall be as follows:

1. 2023 Streets and Drainage Improvements Program project specifications/drawings
2. Town of Canmore Engineering Design and Construction Guidelines
3. City of Calgary standard specification.

1.1 DESCRIPTION

- .1 The work, unless specifically stated otherwise, shall include the furnishing of all materials, products, plants, labour, equipment, and transportation necessary to complete the work. The intent is that the **Contractor** provides a complete job.
- .2 The work shall not be deemed complete until all components are accepted by the Town of Canmore and placed in operation by the **Contractor**, are operating satisfactorily and any required operational training is provided to the client.
- .3 Any minor item of the work not called for in the specifications or shown on the drawings but clearly required to meet the intent of design and normally provided for the proper operation of the work shall be provided as if specifically called for in the contract documents.
- .4 The complete work under this contract shall be governed by the dictates of good practice in all details, materials and workmanship even if not minutely specified. The components of the work shall be properly co-ordinated to provide a complete system.

1.2 DOCUMENTS REQUIRED

- .1 Maintain at the job site at least one copy of each of the following to be available at all times to the **Consultant** and their representatives:
 - Owner contact information for Project Manager and Communication liaison
 - Consultant contact information
 - Emergency contact information for the Town of Canmore and Emergency Services
 - Landlords, tenants, and resident information
 - Contract Drawings
 - Specifications
 - Addenda

- Change Orders
 - Reviewed Shop Drawings
 - Modifications to the Contract
 - Traffic Accommodation Plan
 - Field Test Reports
 - Construction Schedule
 - Manufacturer's Installation and Application Instructions
 - Occupational Health and Safety Regulations
- and have readily available the Standard Specifications.

1.3 DIRECTION OF THE WORK

- .1 The **Consultant** will not be responsible for the **Contractor's** means, methods, techniques, sequences, or procedures of construction, or for the supervision of the **Contractor's** performance of this contract, or for the **Contractor's** failure to perform the work in accordance with the contract. However, if at any time the **Consultant** is of the opinion that the number of workers, pieces of equipment or quality of machinery, tools, plant and equipment or articles are insufficient to meet the quality or schedule requirements, they may so advise the **Contractor**. The **Contractor** shall promptly make the necessary changes to ensure that the quality and schedule requirements are adhered to.
- .2 Pursuant to the provisions of the General Conditions of the contract, while it is intended that the **Contractor** shall be allowed in general to carry out the contract in such a manner that may appear to them to be the most desirable, the **Consultant** at their discretion may direct the order in which and points at which the work shall be undertaken. This control shall be exercised in the interest of the **Owner** and it is intended that an agreement be reached between all parties prior to the commencement of the contract.

1.4 STANDARD SPECIFICATIONS

- .1 Wherever standard specifications (i.e., CSA, ASTM and such) are referred to in these contract documents the current edition at the date of closing of tenders shall apply.
- .2 Where there is a clear conflict between the Standard Specifications and the contract documents, the contract documents shall apply.
- .3 Where there is an ambiguity between the Standard Specifications and any term of these contract documents, the **Consultant** shall, in the first instance, give an interpretation of the intent of the contract.

1.5 SECURITY

- .1 The **Owner** will not be responsible for any loss or damage to property of the **Contractor**. The **Contractor** shall furnish site security as required in the contract.

1.6 BUSINESS LICENCES

- .1 The **Contractor** and his Sub-Contractor's must have a valid Town of Canmore business license.

1.7 ROAD BANS

- .1 The **Contractor** shall obey all road bans.

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 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Refer to Request for Proposal Document for Summary of Work.
- .2 Refer to Instructions to Bidders for Construction Completion dates.

Note: Location of services shown on drawings are based on the best available information and are to be used for reference only. The contractor is responsible for locating and protecting all existing infrastructure.

1.2 CONTRACT METHOD

- .1 Construct Work under Unit Price Contract.
- .2 Relations and responsibilities between the **Contractor**, subcontractors and suppliers assigned by the **Owner** are as defined in the Conditions of Contract. Assigned Subcontractors must, in addition:
 - .1 Furnish to the **Contractor**, bonds covering faithful performance of subcontracted work and payment of obligations thereunder when the **Contractor** is required to furnish such bonds to the **Owner**.
 - .2 Purchase and maintain liability insurance to protect the **Contractor** from claims for not less than limits of liability which the **Contractor** is required to provide to **Owner**.

1.3 WORK BY OTHERS

- .1 Co-operate with other contractors in carrying out their respective works and carry out instructions from the **Consultant**.
- .2 Co-ordinate work with that of other contractors. If any part of work under this Contract depends for its proper execution or result upon work of another contractor, report promptly to the **Consultant**, in writing, any defects which may interfere with proper execution of Work.

1.4 WORK SEQUENCE

- .1 Construct Work in stages to minimize impacts to vehicle and active transportation and accommodate public access to adjacent businesses and residences during construction.
- .2 Co-ordinate Progress Schedule and co-ordinate with the **Consultant** the required occupancy during construction.
- .3 Maintain fire access/control.

1.5 CONTRACTOR USE OF PREMISES

- .1 Co-ordinate use of premises under direction of the **Owner**.
- .2 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .3 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.

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- .4 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by the **Consultant**.
 - .5 At completion of operations the condition of existing work shall be equal to or better than that which existed before new work started.

1.6 EXISTING SERVICES

- .1 Notify the **Owner**, Town of Canmore, and any affected businesses or residences and utility companies of intended interruption of services and obtain required permission at least one week prior to the planned interruption.
- .2 Where work involves breaking into or connecting to existing services, give the **Owner**, Town of Canmore, and utility companies least five (5) days' notice for necessary interruption of water, sanitary, gas, electrical or communications service throughout course of work. Minimize duration of interruptions. Carry out work at times as directed by governing authorities with minimum disturbance to residents, pedestrians, and vehicular traffic.
- .3 Provide alternative routes for personnel and vehicular traffic.
- .4 Establish location and extent of service lines in area of work before starting Work. Notify **Consultant** of findings.
- .5 Submit schedule at least five (5) days in advance and obtain approval from the **Owner** and Town of Canmore for any shut-down or closure of active service or facility including power and communications services. Adhere to the approved schedule and provide notice to affected parties.
- .6 Provide adequate detours around trenches which cross sidewalks or roads to maintain safe pedestrian traffic.
- .7 Where previously unknown infrastructure is encountered, immediately advise the **Consultant** and utility companies and confirm findings in writing. Do not proceed with removal or replacement of the discovered infrastructure without approval from the **Consultant**.
- .8 Protect, relocate, replace or maintain existing active services as detailed in the design. When inactive services are encountered, immediately advise the **Consultant**, and obtain approval before capping off or removal in manner approved by authorities having jurisdiction.
- .9 Accurately record locations of maintained, re-routed, replaced, and abandoned service lines and submit to the **Consultant** with the Certificate of Substantial completion. Records should include x, y and z values so that services may be located in the future.
- .10 Construct barriers in accordance with Section 01 56 00 Temporary Barriers and Enclosures.

1.7 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each document as follows:
 - .1 Contract Drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Change Orders
 - .5 Reviewed Shop Drawings
 - .6 List of Outstanding Shop Drawings

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- .7 Other Modifications to Contract
 - .8 Traffic Accommodation Plan
 - .9 Field Test Reports
 - .10 Copy of Approved Work Schedule
 - .11 Health and Safety Plan and Other Safety Related Documents
 - .12 Standard Specifications
 - .13 Other documents as specified

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 ACCESS AND EGRESS

- .1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, runways, ramps or ladders and scaffolding, independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.

1.2 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with **Owner** to facilitate work as stated.
- .2 Maintain services to adjacent building and provide for pedestrian, bike and vehicle access.
- .3 Where security on private property is reduced by work provide temporary means to maintain security.
- .4 Provide sanitary facilities for use by **Contractor's** personnel. Keep facilities clean.
- .5 Closures: protect work temporarily until permanent enclosures are completed.
- .6 Execute work with least possible interference or disturbance to the normal use of premises. Arrange with the **Consultant** to facilitate execution of work.

1.3 SPECIAL REQUIREMENTS

- .1 Submit schedule in accordance with Section 01 32 16.07 - Construction Progress Schedules - Bar (GANTT) Chart.
- .2 Ensure that **Contractor** personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .3 Keep within limits of work and avenues of ingress and egress.
- .4 Deliver materials during normal working hours unless otherwise approved by the **Owner**.

1.4 ROAD BANS

- .1 The **Contractor** shall obey all road bans. Road bans, when in effect, are town wide and will be strictly enforced. There will be no relaxation on Road Bans.

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 THE CONSTRUCTION SITE

- .1 The **Owner** will provide the land upon which the work is to be constructed.

1.2 CONTRACTOR'S USE OF THE SITE

- .1 Use of the site is restricted to those areas shown on the plans or approved by the **Consultant** and contingent on having appropriate approvals from the Town of Canmore.
- .2 The **Contractor** shall have use of the site, provided that the **Contractor** shall permit access to the **Owner**, the **Consultant** and other **Contractor's** on the site for purposes of inspections, reviews, tests and carrying out work related to the work.
- .3 **Contractor's** use of the site for storage and for executing the work is subject to the approval of the **Owner** or the Town of Canmore if within the public right of way.
- .4 The **Contractor** shall not unreasonably encumber the site with material or equipment.
- .5 The **Contractor** shall obtain and pay for the use of additional storage or work areas needed for operations.
- .6 The **Contractor** shall maintain/provide access to all residential and commercial property adjacent to the work at all times and shall confine activities relevant to the work to areas within the designated working area. No fires are permitted on the site.
- .7 The **Contractor** shall conduct construction operations with minimum interference to adjacent roadways, sidewalks, and access facilities in general, and shall keep such areas free from materials, debris and equipment at all times.

PART 2 PRODUCTS

2.1 NOT USED

- .1 Not Used.

PART 3 EXECUTION

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 5 General

5.1 Description

- .1 Payments shall be made on the basis of the lump sum prices and the unit prices bid in the Unit Price Schedules in the Tender Form.
- .2 The prices bid for various items of work, unless specifically noted otherwise, shall include the supply of all labour, material, plant and equipment required to construct the work in accordance with the drawings and specifications.
- .3 The method of measurement of the quantities for payment and the basis for payment will be in accordance with the following items of this section. All measurement will be done by the **Engineer**.
- .4 The prices bid for supply and installation of materials shall be full compensation for supplying, delivering, loading, unloading, handling, storage, breakage, waste, hauling, installing, cleaning, testing and placing in service the work together with all work subsidiary and incidentals thereto for which separate payment is not provided elsewhere. **Payment shall be only for materials installed.**
- .5 All existing materials on-site whether structures, vegetation, topsoil, gravel, sand or other excavated, or piled materials are the property of the **Owner** on which the work is located. Only those materials specifically noted in the specifications or on the drawings as belonging to the **Contractor** shall become the **Contractor's** property.
- .6 Where there are excess excavated materials, unsuitable materials or materials of any kind that are not used in the work, such materials are not the property of the **Contractor** unless authorized in writing by the **Engineer** or specified to be disposed of by the **Contractor**.
- .7 The sum of the payments in the Unit Price Schedules of the Tender Form shall constitute full payment for the complete works as described in these documents. Extra payment will only be made for items adding to the scope of the works, as described in these documents and/or shown on the drawings and as evident from inspection of the site of the works.

Part 6 Non-Payment Items

6.1 Description

- .1 Supply of all equipment, labour, materials, plant, and services required to complete the Work for which no specific payment item has been assigned in the Unit Price Schedules of the Tender Form shall be considered incidental to the Works.
- .2 There shall be no separate payment for incidental work. Payment for incidental work shall be considered to be included in the total tendered price of the Unit Price Schedules of the Tender Form.
- .3 All work shown on the plans and drawings, or referred to in the General Conditions, the Supplementary General Conditions, or the General Specifications shall be considered as part of the complete work unless specifically deleted.
- .4 Remediation of all areas impacted by construction including landscaping and landscape maintenance for the duration of the warranty period is incidental to the work unless specifically called out in this section.

Part 7 Measurement and Payment Clauses

7.1 General Provisions

- .1 General Requirements.
 - .1 No measurement shall be made.
 - .2 Payment shall be made on the lump sum (LS) price bid, pro-rated on a monthly basis according to the percentage of contract completion.
 - .3 Payment shall include the supply of all labour, material and plant for the following work but not limited to:
 - .1 Mobilization and demobilization
 - .2 Dust control.
 - .3 Dewatering
 - .4 Temporary access roads, haul roads, detour roads, pedestrian walkways and alternative means of pedestrian access to adjacent properties over excavations.
 - .5 Site safety
 - .6 Site security.
 - .7 Temporary power for construction purposes.
 - .8 Toilets.
 - .9 Environmental protection.
 - .10 Construction fencing
 - .11 Insurance.
 - .12 Permits
 - .13 Survey/layout.
 - .14 Quality control.
 - .15 Reports and submissions required by authorities having jurisdiction and as described in the specifications.
 - .16 Project management and communications as required between the consultant, the owner, and adjacent properties.
 - .17 Post0construction submittals including but not limited to: redline drawings and notes to be submitted to the consultant for drawings of record.
 - .18 Clean-up and removal of debris.
 - .19 All work as described in the specifications.
 - .20 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .2 Traffic Control & Accommodation.
 - .1 No measurement shall be made.

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- .2 Payment shall be made on the lump sum (LS) bid price, pro-rated on a monthly basis according to the percentage of contract completion.
 - .3 Payment shall include the supply of all labour, material and plant to provide traffic control and accommodation in accordance with the specifications. The works includes:
 - .1 Traffic control and accommodation in accordance with the specifications, including but not limited to Sections 01 35 00.06 and 01 56 00 and as directed by the owner.
 - .2 Manufacturing and supply, erection and relocation as required of all barricades, flashers and signs required for completion of the project.
 - .3 Supply and coordination of qualified flaggers as necessary.
 - .4 Maintenance, replacement and removal of traffic control materials after construction completion.
 - .5 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .3 Erosion and Sediment Control
 - .1 No measurement shall be made.
 - .2 Payment shall be made on the lump sum (LS) bid price, pro-rated on a monthly basis according to the percentage of contract completion.
 - .3 Payment shall include the supply of all labour, material and plant required to provide sediment and erosion control throughout the entire project in accordance with the Specifications. The work includes:
 - .1 Supply and installation of erosion control as required as per the City of Calgary Erosion and Sediment Control Guidelines.
 - .2 Maintenance, replacement and removal of erosion and sediment control as necessary after construction completion.
 - .3 All incidental work and items required to complete the work for which payment is not specified elsewhere.

7.2 16th STREET DRAINAGE AND SURFACE IMPROVEMENTS

- .1 Tree and root structure removal.
 - .1 No measurement shall be made.
 - .2 Payment shall be made on the lump sum (LS) bid price for the tree removed.
 - .3 Payment shall include the supply of all labour, material and plant required to provide protection to trees near the footprint of the works. The work includes:
 - .1 Verify on-site the trees that require removal with the Engineer.
 - .2 Removal and disposal of the selected tree, as well as the root structure.

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- .3 Location and protection of existing utilities and structures adjacent to the tree.
 - .4 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .2 Cleanout Existing Drywell
 - .1 No measurement shall be made.
 - .2 Payment shall be made on the lump sum (LS) bid price for the cleanout of the drywell.
 - .3 Removal of debris within the drywell barrel and flushing/cleaning thoroughly.
 - .4 Payment shall include the supply of all labour, material and plant required to cleanout the existing drywell.
 - .3 Waste Excavation
 - .1 Measurement shall be made in cubic metres (m3).
 - .2 Payment shall be made on the unit price bid per cubic metre (m3).
 - .3 Payment shall include the supply of all labour, material and plant to remove and dispose of the material. The work includes:
 - .1 Location and protection of existing utilities and structures.
 - .2 Excavating, loading, and hauling excavated materials to an approved dump site.
 - .3 Dump Fees.
 - .4 Cleaning Removal of Debris.
 - .5 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .4 Subgrade Preparation
 - .1 Measurement shall be made in square metres (m2).
 - .2 Payment shall be made on the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material and plant for subgrade preparation. The work includes:
 - .1 Location and protection of existing utilities and structures.
 - .2 Cutting, trimming and removal of material to disposal or stockpile area.
 - .3 Scarifying subgrade 300m deep.
 - .4 Shaping, watering, aerating, compacting, trimming and testing.
 - .5 Proof-rolling using a heavily loaded truck, loaded to approximately 10 tonnes per axle and minimum tire pressure of 550 kPa.
 - .6 Minimum of 2 complete coverages of the surface area.
 - .7 Proof-rolling should be observed by the geotechnical consultant.

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- .8 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .5 Install Rolled Curb and Gutter
 - .1 Measurement for rolled and drop curb shall be made along the face line of the curb.
 - .2 Payment shall be made on the unit price bid per lineal metre (LM) for curb and gutter.
 - .3 Payment shall include the supply of all labour, material and plant for the curb and gutter. The work includes:
 - .1 Excavation, subgrade preparation and compaction.
 - .2 Removal of excavated material to disposal or stockpile areas.
 - .3 Supply, placement, grading and compaction of granular levelling course.
 - .4 Supply and placing of fibre reinforced concrete .
 - .5 Connection to existing curb & gutter with 10M dowels where required.
 - .6 Forming, jointing, finishing, curing and testing.
 - .7 Rehabilitation of adjacent disturbed work area including grading, supply and installation of gravels, asphalt patching, topsoil & seed etc. as required.
 - .8 Cleaning, removal of debris.
 - .9 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .6 Install Reinforced Rolled Curb and Gutter
 - .1 Measurement for rolled and drop curb shall be made along the face line of the curb.
 - .2 Payment shall be made on the unit price bid per lineal metre (LM) for curb and gutter.
 - .3 Payment shall include the supply of all labour, material and plant for the reinforced rolled curb and gutter. The work includes:
 - .1 Excavation, subgrade preparation and compaction.
 - .2 Removal of excavated material to disposal or stockpile areas.
 - .3 Supply, placement, grading and compaction of granular levelling course.
 - .4 Supply and placement of reinforcing bar.
 - .5 Supply and placing of fibre reinforced concrete .
 - .6 Connection to existing curb & gutter with 10M dowels where required.
 - .7 Forming, jointing, finishing, curing and testing.

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- .8 Rehabilitation of adjacent disturbed work area including grading, supply and installation of gravels, asphalt patching, topsoil & seed etc. as required.
 - .9 Cleaning, removal of debris.
 - .10 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .7 80mm Granular Sub-Base Course, 200mm Thickness
- .1 Measurement shall be made in square metres (m2) for the thickness specified.
 - .2 Payment shall be made on the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material and plant for the granular sub-base. The work includes:
 - .1 Supply, placement, grading, compacting, watering and aerating.
 - .2 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .8 25mm Granular Base Course, 100mm Thickness
- .1 Measurement shall be made in square metres (m2) for the thickness specified.
 - .2 Payment shall be made on the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material and plant for the granular base. The work includes:
 - .1 Supply, placement, grading, compacting, watering and aerating.
 - .2 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .9 Prime Coat
- .1 Measurement shall be made in square metres (m2).
 - .2 Payment shall be made on the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material and plant for application of the prime coat. The work includes:
 - .1 Supply and placement.
 - .2 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .10 Asphalt Concrete Pavement CoC Mix Type B (PG 48-31)
- .1 Measurement shall be made in square metres (m2) for the type and thickness specified.
 - .2 Payment shall be made in the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material and plant for asphalt paving. The work includes:
 - .1 Locating and protecting existing utilities and structures.

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- .2 Mix design.
 - .3 Supply of all materials, mixing, transporting, placing, compaction and testing.
 - .4 Setting of encountered manholes, catch basin frames and covers, valve boxes and all other surface features to make a smooth surface.
 - .5 Asphalt Concrete Pavement placing at tie-in locations is considered incidental to the Work and no additional payment will be made.
 - .6 Cleaning, removal of debris.
 - .7 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .11 Gate Supply and Installation.
- .1 No measurement shall be made.
 - .2 Payment shall be made on the lump sum (LS) bid price for the supply and installation of the gate.
 - .3 Payment shall include the supply of all labour, material and plant required for installation of the gate structure. The work includes:
 - .1 Field verification on site with Owner and Engineer for location of gate.
 - .2 Excavation, trenching, and removal of excavated material to disposal or stockpile areas.
 - .3 Preparation of shop drawings for review by Engineer and Owner.
 - .4 Supply and installation of concrete foundation, reinforcing bar, gate, signage.
 - .5 Water control and disposal.
 - .6 Location and protection of existing utilities and structures adjacent to the tree.
 - .7 All incidental work and items required to complete the work for which payment is not specified elsewhere.

7.3 17th Street Drainage Improvements

- .1 Remove and Dispose of Existing Asphalt
 - .1 Measurement shall be made in square metres (m2).
 - .2 Payment shall be made on the unit price bid per square metre (m2) of asphalt removed, regardless of thickness encountered.
 - .3 Payment shall include the supply of all labour, material and plant for removal and disposal of millings. The work includes:

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- .1 Extents of asphalt outside the area shown on the drawings (for tie-in etc.) to be communicated to the Engineer and approved prior to removal.
 - .2 Location and protection of existing utilities and structures.
 - .3 Cold milling, saw cutting, sweeping, cleaning of remaining pavement surfaces.
 - .4 Excavating, loading, hauling and disposing of millings to an approved dump site.
 - .5 Dump fees.
 - .6 Cleaning, removal of debris.
 - .7 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .2 Waste Excavation
- .1 Measurement shall be made in cubic metres (m3).
 - .2 Payment shall be made on the unit price bid per cubic metre (m3).
 - .3 Payment shall include the supply of all labour, material and plant to remove and dispose of the material. The work includes:
 - .1 Location and protection of existing utilities and structures.
 - .2 Excavating, loading, and hauling excavated materials to an approved dump site.
 - .3 Dump Fees.
 - .4 Cleaning Removal of Debris.
 - .5 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .3 Scarify and Recompact Existing Granular Base
- .1 Measurement shall be made in square metres (m2).
 - .2 Payment shall be made on the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material, and plant for the preparation of existing base materials. The work includes:
 - .1 Scarifying subgrade 300m deep.
 - .2 Shaping, watering, aerating, compacting, trimming, and testing.
 - .3 Locating and protecting existing utilities and structures.
 - .4 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .4 Installation of Concrete Swale
- .1 Measurement shall be made along the centreline of the concrete swale (l.m).
 - .2 Payment shall be made on the unit price bid per lineal meters (l.m) installed for the type specified on the drawings.

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- .3 Payment shall include the supply of all labour, material and plant for the concrete work. The work includes:
 - .1 Excavation, subgrade preparation and compaction.
 - .2 Removal of excavated material to disposal or stockpile areas.
 - .3 Supply and placement of granular levelling course.
 - .4 Supply and placing of fibre reinforced concrete and reinforcing steel where required.
 - .5 Connecting to existing sidewalk pattern and design includes decorative stamps.
 - .6 Connection to existing sidewalk panels with 10M dowels where required.
 - .7 Forming, jointing, finishing, curing, and testing.
 - .8 Cleaning, removal of debris.
 - .9 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .5 Prime Coat
 - .1 Measurement shall be made in square metres (m2).
 - .2 Payment shall be made on the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material and plant for application of the prime coat. The work includes:
 - .1 Supply and placement.
 - .2 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .6 Asphaltic Concrete Pavement – Coc Mix Type B (PG 58-31)
 - .1 Measurement shall be made in square metres (m2) for the type and thickness specified.
 - .2 Payment shall be made in the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material and plant for asphalt paving. The work includes:
 - .1 Locating and protecting existing utilities and structures.
 - .2 Mix design.
 - .3 Supply of all materials, mixing, transporting, placing, compaction and testing.
 - .4 Setting of encountered manholes, catch basin frames and covers, valve boxes and all other surface features to make a smooth surface.
 - .5 Asphalt Concrete Pavement placing at tie-in locations is considered incidental to the Work and no additional payment will be made.

- .6 Cleaning, removal of debris.
- .7 All incidental work and items required to complete the work for which payment is not specified elsewhere.

7.4 Fairholme Drive Asphalt Rehabilitation

- .1 Remove Precast Concrete
 - .1 No measurement shall be made.
 - .2 Payment shall be made on the lump sum (LS) price bid, pro-rated monthly basis according to the percentage of contract completion.
 - .3 Payment shall include the supply of all labour, material, and plant to remove and drop off the precast structures. The work includes:
 - .1 Removal, loading and hauling of precast traffic calming structures throughout the extents of the roadway.
 - .2 Removal and delivery of the precast structures from the North side of Fairholme and 10th to be delivered to the Town of Canmore public works at 100 Glacier Drive Canmore, AB.
 - .3 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .2 Edge Milling of Existing Asphalt
 - .1 Measurement shall be made in square metres (m²) for the type and thickness specified.
 - .2 Payment shall be made on the unit price bid per square metre (m²) of asphalt removed, regardless of thickness encountered.
 - .3 Payment shall include the supply of all labour, material and plant for removal and disposal of millings. The work includes:
 - .1 Extents of asphalt outside the area shown on the drawings (for tie-in etc.) to be communicated to the Engineer and approved prior to removal.
 - .2 Location and protection of existing utilities and structures.
 - .3 Cold milling, sweeping, cleaning of remaining pavement surfaces.
 - .4 Tapered Edge milling starting at a depth of 70mm at the lip of gutter, to 0mm one meter out from lip of gutter. Longitudinal tie in as per details.
 - .5 Excavating, loading, hauling, and disposing of millings to an approved dump site.
 - .6 Dump fees.
 - .7 Cleaning, removal of debris.
 - .8 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .3 Spray Patching and Crack Sealing

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- .1 Measurement shall be made in linear metres (l.m.).
 - .2 Payment shall be made on the linear metre (l.m.) price bid.
 - .3 Payment shall be made on the unit price bid for spray patching and crack sealing. The work includes:
 - .1 Localized milling over deep cracks in the asphalt.
 - .2 Sealing the Asphalt cracks.
 - .3 Spray patching areas of heavily worn areas.
 - .4 Provide a surface for the overlay that is approved by the Town of Canmore.
 - .5 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .4 Asphalt Concrete Level Course
 1. Measurement shall be made in Tonnes.
 2. Payment shall be made in the unit price bid per Tonne.
 3. Payment shall include the supply of all labour, material and plant for asphaltic concrete levelling course. The work includes:
 1. Supply of all materials, mixing, transporting, placing, compaction and testing.
 2. Mix design.
 3. Setting of manholes and catch basin frames and covers, valve boxes and all other surface features to make a smooth surface.
 4. Locating and protecting existing utilities and structures.
 5. All cold milling and edge taper milling required before overlay.
 6. Cleaning, removal of debris.
 7. Contractor will provide tickets to record the tonnes used.
 8. All incidental work and items required to complete the work for payment is not specified elsewhere.
 - .5 Tack Coat
 - .1 Measurement shall be made in square metres (m2).
 - .2 Payment shall be made on the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material and plant for application of the tack coat. The work includes:
 - .1 Supply and placement.
 - .2 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .6 Asphalt Concrete Pavement overlay – CoC Mix Type B (PG 58-31) 70mm Thickness.
 - .1 Measurement shall be made in square metres (m2) for the type and thickness specified.
 - .2 Payment shall be made in the unit price bid per square metre (m2).

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- .3 Payment shall include the supply of all labour, material and plant for asphalt paving. The work includes:
- .1 Locating and protecting existing utilities and structures.
 - .2 Mix design.
 - .3 Supply of all materials, mixing, transporting, placing, compaction and testing.
 - .4 Setting of encountered manholes, catch basin frames and covers, valve boxes and all other surface features to make a smooth surface.
 - .5 Asphalt Concrete Pavement placing at tie-in locations is considered incidental to the Work and no additional payment will be made.
 - .6 Cleaning, removal of debris.
 - .7 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .7 Reinstall Precast Concrete
- .1 No measurement shall be made.
 - .2 Payment shall be made on the lump sum (LS) price bid, pro-rated monthly basis according to the percentage of contract completion.
 - .3 Payment shall include the supply of all labour, material, and plant to reinstall the Precast structures. The work includes:
 - .1 Loading and hauling of precast traffic calming structures to reinstall.
 - .2 Placement of the precast structures must be approved by the town of Canmore.
 - .3 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .8 Pavement Markings
- Sharrows
- 1. Measurement shall be made as a complete unit (ea) installed.
 - 2. Payment shall be made on the unit price bid per complete unit (ea) installed for the type specified on the drawings.
 - 3. Payment shall include the supply of all labour, material and plant to install the thermoplastic traffic markings as detailed on the drawings. The work includes:
 - 1. Cleaning of surfaces, layout, grinding, supply and application of durable markings as per specifications, and protection until dry.
 - 2. All incidental work and items required to complete the work for which payment is not specified elsewhere.

NOTE: Durable pavement markings shall be MMA, thermoplastic, or approved equivalent.

Centre Line

1. Measurement for durable pavement markings shall be made along the centre line of the type of line bid in lineal meters (LM)
2. Payment shall be made on the unit price bid per lineal meter (LM) for each type of durable pavement marking bid.
3. Payment shall include the supply of all labour, material and plant to install the thermoplastic traffic markings as detailed on the drawings. The work includes:
 1. Cleaning of surfaces, layout, grinding, supply and application of durable markings as per specifications, and protection until dry.
 2. All incidental work and items required to complete the work for which payment is not specified elsewhere.

NOTE: Durable pavement markings shall be MMA, thermoplastic, or approved equivalent.

Pedestrian Crossings

1. Measurement for durable pavement markings shall be made along the centre line of the type of line bid in lineal meters (LM)
2. Payment shall be made on the unit price bid per lineal meter (LM) for each type of durable pavement marking bid.
3. Payment shall include the supply of all labour, material and plant to install the thermoplastic traffic markings as detailed on the drawings. The work includes:
 1. Cleaning of surfaces, layout, grinding, supply and application of durable markings as per specifications, and protection until dry.
 2. All Incidental work and items required to complete the work for which payment is not specified elsewhere.

NOTE: Durable pavement markings shall be MMA, thermoplastic, or approved equivalent.

Stop Bars

1. Measurement for durable pavement markings shall be made along the centre line of the type of line bid in lineal meters (LM)
2. Payment shall be made on the unit price bid per lineal meter (LM) for each type of durable pavement marking bid.
3. Payment shall include the supply of all labour, material and plant to install the thermoplastic traffic markings as detailed on the drawings. The work includes:

1. Cleaning of surfaces, layout, grinding, supply and application of durable markings as per specifications, and protection until dry.
2. All incidental work and items required to complete the work for which payment is not specified elsewhere.

NOTE: Durable pavement markings shall be MMA, thermoplastic, or approved equivalent.

7.5 Fariholme Drive Sidewalk Expansion

- .1 Relocate Garbage Bin
 - .1 No measurement shall be made.
 - .2 Payment shall be made on the lump sum (l.s) price bid per for the refuse container moved.
 - .3 Payment shall include the supply of all labour, material and plant for the relocation of refuse containers. The work includes:
 - .1 Removal of existing garbage bin and precast base.
 - .2 Storage of all materials until reinstallation.
 - .3 Installation of the bins in the location and orientation shown on the drawings including supply of anchoring materials/fastening.
 - .4 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .2 Relocate Existing Mailbox
 - .1 No measurement shall be made.
 - .2 Payment shall be made on the lump sum (l.s) price bid per for the relocation of the existing mailbox.
 - .3 Payment shall include the supply of all labour, material and plant for the relocation of refuse containers. The work includes:
 - .1 Removal of existing mailbox and precast base.
 - .2 Secure Storage of all materials until reinstallation.
 - .3 Installation of the mailbox structure in the location and orientation shown on the drawings including supply of anchoring materials/fastening.
 - .4 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .3 Relocate Existing Bench
 - .1 No measurement shall be made.
 - .2 Payment shall be made on the lump sum (l.s) price bid per for the bench moved.
 - .3 Payment shall include the supply of all labour, material and plant for the relocation of the park bench. The work includes:

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- .1 Removal of existing bench and precast base.
 - .2 Secure Storage of all materials until reinstallation.
 - .3 Installation of the bench in the location and orientation shown on the drawings including supply of anchoring materials/fastening.
 - .4 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .4 Remove and Dispose of Existing Asphalt
- .1 Measurement shall be made in square metres (m²).
 - .2 Payment shall be made on the unit price bid per square metre (m²) of asphalt removed, regardless of thickness encountered.
 - .3 Payment shall include the supply of all labour, material and plant for removal and disposal of millings. The work includes:
 - .1 Extents of asphalt outside the area shown on the drawings (for tie-in etc.) to be communicated to the Engineer and approved prior to removal.
 - .2 Location and protection of existing utilities and structures.
 - .3 Cold milling, saw cutting, sweeping, cleaning of remaining pavement surfaces.
 - .4 Excavating, loading, hauling and disposing of millings to an approved dump site.
 - .5 Dump fees.
 - .6 Cleaning, removal of debris.
 - .7 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .5 Remove and Dispose of Existing Exposed Aggregate Sidewalk
- .1 Measurement shall be made in square meters (m²).
 - .2 Payment shall be made on the unit price bid per metre squared (m²) of existing concrete sidewalk removed.
 - .3 Payment shall include the supply of all labour, material and plant for removal and disposal of existing concrete. The work includes:
 - .1 Location and protection of existing utilities and structures.
 - .2 Saw cutting, breaking, excavation, loading, and hauling demolished concrete to an approved dump site.
 - .3 Dump fees.
 - .4 Cleaning, removal of debris.
 - .5 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .6 Remove and Dispose of Existing Concrete Swale
- .1 Measurement shall be made in lineal meters (LM).

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- .2 Payment shall be made on the unit price bid per lineal (LM) of existing concrete swale removed.
 - .3 Payment shall include the supply of all labour, material and plant for removal and disposal of existing concrete. The work includes:
 - .1 Location and protection of existing utilities and structures.
 - .2 Saw cutting, breaking, excavation, loading, and hauling demolished concrete to an approved dump site.
 - .3 Dump fees.
 - .4 Cleaning, removal of debris.
 - .5 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .7 Topsoil Stripping
 - .1 Measurement shall be made in square metres (m²). The quantity shall be the actual area stripped with an assumed topsoil depth of 150mm.
 - .2 Payment shall be made on the unit price bid per square metre (m²).
 - .3 Payment shall include the supply of all labour, material and plant to strip and haul deleterious materials offsite. The work includes:
 - .1 Location and protection of existing utilities and structures.
 - .2 Excavating, loading and hauling to an approved dump site.
 - .3 Dump and tipping fees.
 - .4 Stockpile and reuse of topsoil onsite if required.
 - .5 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .8 Landscape Stockpile and Re-install
 - .1 No measurement shall be made.
 - .2 Payment shall be made on the lump sum (LS) price bid, pro-rated monthly basis according to the percentage of contract completion.
 - .3 Payment shall include the supply of all labour, material and plant to strip, stockpile, and reinstall existing landscaping. The work includes:
 - .1 Location and protection of existing utilities and structures.
 - .2 Excavating, loading, and hauling to an approved dump site.
 - .3 Dump and tipping fees.
 - .4 Shrub removal.
 - .5 Tree removal.
 - .6 Wooden landscape feature removal and reinstallation.
 - .7 Stockpile and reuse of topsoil and landscaping stones onsite if required.
 - .8 Rehabilitation the landscaped areas to match existing style.

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- .9 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .9 Installation of Concrete Sidewalk
 - .1 Measurement shall be made in square metres (m²).
 - .2 Payment shall be made on the unit price bid per square metre (m²).
 - .3 Payment shall include the supply of all labour, material, and plant for concrete sidewalk. The work includes:
 - .1 Location and protection of existing utilities and structures.
 - .2 Saw cutting, breaking, excavation and disposal of the asphalt required to install the concrete sidewalk.
 - .3 Excavation, grading, subgrade preparation and compaction.
 - .4 Removal of excavated material to disposal areas.
 - .5 Supply, placement, and compaction of granular base structure as specified on the drawings.
 - .6 Connection to existing sidewalk, curb and gutter with 10M dowels where required.
 - .7 Supply and placing of fibre reinforced concrete.
 - .8 Forming, jointing, finishing, curing, and testing.
 - .9 Cleaning, removal of debris.
 - .10 Rehabilitation of adjacent disturbed work area including grading, supply and installation of gravels, asphalt patching to match the existing road structure, landscaping topsoil & seed etc. as required.
 - .11 All incidental work and items required to complete the work for which payment is not included elsewhere.
 - .10 Installation of Reinforced Concrete Sidewalk
 - .1 Measurement shall be made in square metres (m²).
 - .2 Payment shall be made on the unit price bid per square metre (m²).
 - .3 Payment shall include the supply of all labour, material, and plant for reinforced concrete sidewalk. The work includes:
 - .1 Location and protection of existing utilities and structures.
 - .2 Saw cutting, breaking, excavation and disposal of the asphalt required to install the reinforced concrete sidewalk.
 - .3 Excavation, grading, subgrade preparation and compaction.
 - .4 Removal of excavated material to disposal areas.
 - .5 Supply, placement, and compaction of granular base structure as specified on the drawings.
 - .6 Supply and placement of required rebar enforcement as shown in detailed drawings.
 - .7 Connection to existing sidewalk, curb and gutter with 10M dowels where required.
 - .8 Supply and placing of fibre reinforced concrete.
 - .9 Forming, jointing, finishing, curing, and testing.
 - .10 Cleaning, removal of debris.

- .11 Rehabilitation of adjacent disturbed work area including grading, supply and installation of gravels, asphalt patching to match the existing road structure, landscaping topsoil & seed etc. as required.
- .12 All incidental work and items required to complete the work for which payment is not included elsewhere.

7.6 Palliser Trail Asphalt Rehabilitation

- .1 Waste Excavation – Asphalt/Granular Material – 110mm Depth
 - .1 Measurement shall be made in square metres (m²) for the removal of 110mm of material from original grade, regardless of the thickness of asphalt encountered.
 - .2 Payment shall be made in the unit price bid per square metre (m²) removed.
 - .3 Payment shall include the supply of all labour, materials and plant for the removal of all materials to a depth of 110mm. The work includes:
 - .1 Locating and protecting existing utilities and structures.
 - .2 Removal of all existing materials to a depth of 110mm.
 - .3 Disposal of removed material.
 - .4 All loading, hauling and disposal fees.
 - .5 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .2 Scarify, regrade and Recompact Existing Granular Base
 - .1 Measurement shall be made in square metres (m²).
 - .2 Payment shall be made on the unit price bid per square metre (m²).
 - .3 Payment shall include the supply of all labour, material, and plant for the preparation of existing base materials. The work includes:
 - .1 Scarifying subgrade 300m deep.
 - .2 Shaping, watering, aerating, compacting, trimming, and testing.
 - .3 Locating and protecting existing utilities and structures.
 - .4 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .3 Prime Coat
 - .1 Measurement shall be made in square metres (m²).
 - .2 Payment shall be made on the unit price bid per square metre (m²).
 - .3 Payment shall include the supply of all labour, material and plant for application of the prime coat. The work includes:
 - .1 Supply and placement.
 - .2 All incidental work and items required to complete the work for which payment is not specified elsewhere.

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- .4 Asphalt Concrete Pavement Base Lift
 - .1 Measurement shall be made in square metres (m2) for the type and thickness specified.
 - .2 Payment shall be made in the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material, and plant for asphalt paving. The work includes:
 - .1 Locating and protecting existing utilities and structures.
 - .2 Supply of ACP Mix Type S3 PG 52-34.
 - .3 Supply of all materials, mixing, transporting, placing, compaction and testing for 80mm of compacted asphalt.
 - .4 Setting of encountered manholes, catch basin frames and covers, valve boxes and all other surface features to make a smooth surface.
 - .5 Asphalt Concrete Pavement placing at tie-in locations is considered incidental to the Work and no additional payment will be made.
 - .6 Cleaning, removal of debris.
 - .7 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .5 Tack Coat
 - .1 Measurement shall be made in square metres (m2).
 - .2 Payment shall be made on the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material and plant for application of the tack coat. The work includes:
 - .1 Supply and placement.
 - .2 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .6 Asphalt Concrete Pavement Surface Lift
 - .1 Measurement shall be made in square metres (m2) for the type and thickness specified.
 - .2 Payment shall be made in the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material, and plant for asphalt paving. The work includes:
 - .1 Locating and protecting existing utilities and structures.
 - .2 Supply of ACP Mix Type M1 PG 52-34.
 - .3 Supply of all materials, mixing, transporting, placing, compaction and testing for 70mm of compacted asphalt.
 - .4 Setting of encountered manholes, catch basin frames and covers, valve boxes and all other surface features to make a smooth surface.

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- .5 Asphalt Concrete Pavement placing at tie-in locations is considered incidental to the Work and no additional payment will be made.
 - .6 Cleaning, removal of debris.
 - .7 All incidental work and items required to complete the work for which payment is not specified elsewhere.
- .7 Pavement Markings
- Centre Line Painting
- 1. Measurement for durable pavement markings shall be made along the centre line of the type of line bid in lineal meters (LM)
 - 2. Payment shall be made on the unit price bid per lineal meter (LM) for each type of durable pavement marking bid.
 - 3. Payment shall include the supply of all labour, material and plant to install the thermoplastic traffic markings as detailed on the drawings. The work includes:
 - 1. Cleaning of surfaces, layout, grinding, supply and application of durable markings as per specifications, and protection until dry.
 - 2. All incidental work and items required to complete the work for which payment is not specified elsewhere.

NOTE: Durable pavement markings shall be MMA, thermoplastic, or approved equivalent.

7.7 Alpine Helicopters Pad Asphalt Rehabilitation – Night Work

- .1 Remove and Dispose of Existing Asphalt Pavement
 - .1 Measurement shall be made in square metres (m²).
 - .2 Payment shall be made on the unit price bid per square metre (m²) of asphalt removed, regardless of thickness encountered.
 - .3 Payment shall include the supply of all labour, material and plant for removal and disposal of millings. The work includes:
 - .1 Extents of asphalt outside the area shown on the drawings (for tie-in etc.) to be communicated to the Engineer and approved prior to removal.
 - .2 Location and protection of existing utilities and structures.
 - .3 Cold milling, saw cutting, sweeping, cleaning of remaining pavement surfaces.
 - .4 Excavating, loading, hauling and disposing of millings to an approved dump site.
 - .5 Dump fees.
 - .6 Cleaning, removal of debris.

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- .7 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .2 Scarify, Regrade, and Recompact Existing Granular Base
 - .1 Measurement shall be made in square metres (m2).
 - .2 Payment shall be made on the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material, and plant for the preparation of existing base materials. The work includes:
 - .1 Scarifying granular materials 200m deep.
 - .2 Shaping, watering, aerating, compacting, trimming, and testing.
 - .3 Locating and protecting existing utilities and structures.
 - .4 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .3 Prime Coat
 - .1 Measurement shall be made in square metres (m2).
 - .2 Payment shall be made on the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material and plant for application of the prime coat. The work includes:
 - .1 Supply and placement.
 - .2 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .4 Asphalt concrete Pavement
 - .1 Measurement shall be made in square metres (m2) for the type and thickness specified.
 - .2 Payment shall be made in the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material and plant for asphalt paving. The work includes:
 - .1 Locating and protecting existing utilities and structures.
 - .2 Use of City of Calgary Asphalt Concrete Mix Type B with asphalt binder grade PG 58-34.
 - .3 Supply of all materials, mixing, transporting, placing, compaction and testing for a base lift of 50mm and a surface lift of 60mm.
 - .4 Setting of encountered manholes, catch basin frames and covers, valve boxes and all other surface features to make a smooth surface.
 - .5 Asphalt Concrete Pavement placing at tie-in locations is considered incidental to the Work and no additional payment will be made.
 - .6 Cleaning, removal of debris.

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- .7 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .5 Tack Coat
 - .1 Measurement shall be made in square metres (m2).
 - .2 Payment shall be made on the unit price bid per square metre (m2).
 - .3 Payment shall include the supply of all labour, material and plant for application of the tack coat. The work includes:
 - .1 Supply and placement.
 - .2 All incidental work and items required to complete the work for which payment is not specified elsewhere.
 - .6 Pavement Markings
 - .1 No measurement shall be made.
 - .2 Payment shall be made on the lump sum (LS) price bid, pro-rated on a monthly basis according to the percentage of contract completion.
 - .3 Payment shall include the supply of all labour, material and plant to install the pavement markings as detailed on the drawings and outlined in the Plan of Construction Operations. The work includes:
 - .1 Cleaning of surfaces, layout, grinding, supply and application of durable markings as per specifications, and protection until dry.
 - .2 Durable pavement markings shall match the specified design shown in the drawings and comply with Transport Canada requirements.
 - .3 All incidental work and items required to complete the work for which payment is not specified elsewhere.

PART 1 GENERAL

1.1 REFERENCES

- .1 Owner/Contractor Agreement.

1.2 APPLICATIONS FOR PROGRESS PAYMENT

- .1 Make applications for payment on account as provided for in the Agreement on a monthly basis as Work progresses.
- .2 Date applications for payment on the last day of agreed monthly payment period and ensure amount claimed is for value, proportionate to amount of Contract, of Work performed and Products delivered to Place of Work at that date.
- .3 Submit to the **Consultant**, at least 14 days before first application for payment Schedule of values for parts of Work, aggregating total amount of Contract Price, to facilitate evaluation of applications for payment.
- .4 Support claims for products delivered to place of Work but not yet incorporated into work by such evidence as the **Owner** may reasonably require to establish value and delivery of products.

1.3 SCHEDULE OF VALUES

- .1 Provide schedule of values supported by evidence as the **Owner** may reasonably direct and when accepted by the **Owner**, be used as basis for applications for payment.
- .2 Include statement based on schedule of values with each application for payment.
- .3 Support claims for products delivered to Place of Work but not yet incorporated into Work by such evidence as **Owner** may reasonably require to establish value and delivery of products.

1.4 CHANGES

- .1 The **Contractor** shall advise the **Owner**, in writing, with sufficient details related to any proposed changes required to complete the work such as but not limited to its associated cost, quality change and schedule change, within five (5) calendar days of the change being discovered on site.
- .2 The **Contractor** shall submit a request for contemplated change notice to the **Owner** for review and approval.
- .3 Each contemplated change notice will be reviewed by the **Owner** and negotiated with the **Contractor** if needed.
- .4 All force accounts shall be approved at the time of completing the work by the **Owner**. Force accounts submitted without prior approval shall not be paid.
- .5 The **Contractor** shall inform the **Owner**, in writing, of any projected quantity changes exceeding 2% of the quantity identified in each line item of the contract documents, no more than five (5) calendar days after the variance has been identified by the **Contractor**.

1.5 PROGRESS PAYMENT

- .1 **Consultant** will issue to **Owner**, no later than ten (10) days after receipt of an application for payment, certificate for payment in amount applied for or in such other amount as **Consultant** determines to be due. If **Consultant** amends application, **Consultant** will give notification in writing giving reasons for amendment.

1.6 SUBSTANTIAL PERFORMANCE OF WORK

- .1 Prepare and submit to **Consultant** comprehensive list of items to be completed or corrected and apply for a review by **Consultant** to establish Substantial Performance or Interim Completion of Work when Work is substantially performed, if permitted by lien legislation applicable to Place of Work designated portion which **Owner** agrees to accept separately is substantially performed. Failure to include items on list does not alter responsibility to complete Contract.
- .2 No later than 10 days after receipt of list and application, **Consultant** will review Work to verify validity of application, and no later than 7 days after completing review, will notify Contractor if Work or designated portion of Work is substantially performed.
- .3 **Consultant** shall state the date of Substantial Performance of Work or designated portion of Work in certificate.
- .4 Immediately following issuance of certificate of Substantial Performance of Work, in consultation with **Consultant**, establish a reasonable date for finishing Work.

1.7 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF WORK

- .1 After issuance of certificate of Substantial Performance of Work:
 - .1 Submit application for payment of holdback amount.
 - .2 Submit sworn statement that accounts for labour, subcontracts, products, construction machinery and equipment, and other indebtedness which may have been incurred in Substantial Performance of Work and for which **Owner** might be held responsible have been paid in full, except for amounts properly retained as holdback or as identified amount in dispute.
- .2 After receipt of application for payment and sworn statement, **Consultant** will issue certificate for payment of holdback amount.

1.8 DEFICIENCY HOLDBACK

- .1 In accordance with Contract, the **Owner** may hold back an amount as determined by the **Consultant** for deficient work.
- .2 An amount of \$5,000 will be held back for failure to submit post construction documentation including but not limited to O&M manuals, redline as-built drawings etc.

1.9 PROGRESSIVE RELEASE OF HOLDBACK

- .1 Where legislation permits, if **Consultant** has certified that Work of subcontractor or supplier has been performed prior to Substantial Performance of Work, **Owner** shall pay holdback amount retained for such subcontract Work, or products supplied by such supplier, on day following expiration of holdback period for such Work stipulated in lien legislation applicable to Place of Work.

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- .2 In addition to provisions of preceding paragraph, and certificate wording, ensure that such subcontract Work or products is protected pending issuance of final certificate for payment and be responsible for correction of defects or Work not performed regardless of whether or not such was apparent when such certificates were issued.

1.10 FINAL PAYMENT

- .1 Submit application for final payment when Work is completed.
- .2 **Consultant** will, no later than ten (10) days after receipt of application for final payment, review Work to verify validity of application. **Consultant** will give notification that application is valid or give reasons why it is not valid, no later than 7 days after reviewing Work.
- .3 **Consultant** will issue final certificate for payment when application for final payment is found valid.

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 APPOINTMENT AND PAYMENT

- .1 The **Owner** will appoint and pay for services of testing laboratory except as follows:
 - .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 the **Owner**.
- .2 Where test or inspections by designated testing laboratory reveal Work not in accordance with contract requirements, the **Contractor** shall pay cost for additional test or inspections as required by the **Owner** to verify acceptability of the corrected work

1.2 CONTRACTOR'S RESPONSIBILITIES

- .1 Provide labour, equipment and facilities to:
 - .1 Provide access to Work for inspection and testing
 - .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 the **Owner** 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 and approved by the **Owner**.

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 ADMINISTRATIVE

- .1 **Contractor's** responsibilities:
 - .1 Make arrangements to attend virtual meetings via online platforms (e.g. Zoom, Microsoft Teams, etc.) with both audio and visual capabilities.
 - .2 Provide physical space on site and make arrangements for in person meetings.
 - .3 Representative of **Contractor**, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of the party each represents.

1.2 PRECONSTRUCTION MEETING

- .1 Within ten (10) days after award of Contract, the **Consultant** will request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Representatives of the **Owner**, **Contractor**, major Subcontractors, field inspectors and supervisors will be in attendance.
- .3 **Consultant** to establish time and location of meeting and notify parties concerned a minimum five (5) days before the meeting.
- .4 The **Contractor** shall incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
- .5 Agenda to include:
 - .1 Appointment of official representative of participants in the Work
 - .2 Schedule of Work: in accordance with Section 01 32 16.07 - Construction Progress Schedules - Bar (GANNT) Chart
 - .3 Schedule of submission of shop drawings, samples, and colour chips. Submit submittals in accordance with Section 01 33 00 Submittal Procedures
 - .4 Requirements for temporary facilities, site signage, offices, storage shed, utilities, fences in accordance with Section 01 50 00 – Temporary Facilities and Controls
 - .5 Delivery schedule of specified equipment in accordance with Section 01 32 16.07 - Construction Progress Schedules - Bar (GANNT) Chart
 - .6 Site security in accordance with Section 01 56 00 - Temporary Barriers and Enclosures
 - .7 Proposed changes, change orders, procedures, approvals required, time extensions, overtime, administrative requirements
 - .8 **Owner** provided products
 - .9 Record drawings in accordance with Section 01 33 00 Submittal Procedures
 - .10 Maintenance manuals in accordance with Section 01 78 00 Closeout Submittals
 - .11 Take-over procedures, acceptance, warranties in accordance with Section 01 78 00 Closeout Submittals.
 - .12 Monthly progress claims, administrative procedures, photographs, hold backs
 - .13 Appointment of inspection and testing agencies or firms
 - .14 Insurances, transcript of policies

1.3 PROGRESS MEETINGS

- .1 Progress meetings shall be held on a weekly basis or as instructed by the **Consultant**.
- .2 **Contractor** and major subcontractors involved in Work and **Consultant** are to be in attendance.
- .3 Representative of **Contractor**, subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of the party each represents.
- .4 The **Consultant** will provide advance notice of meeting dates, times and location to all parties concerned.
- .5 The **Consultant** shall record minutes of meetings and circulate to all attending parties and affected parties not in attendance within five (5) working days after each meeting.
- .6 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 fabrication delivery schedules.
 - .6 Corrective measures and procedures to regain projected schedule.
 - .7 Revision to construction schedule.
 - .8 Progress schedule, during succeeding work period.
 - .9 Review submittal schedules: expedite as required.
 - .10 Maintenance of quality standards.
 - .11 Review proposed changes for their effect on construction schedule and on completion date.
 - .12 Information required for public communications.
 - .13 Other business.
- .8 The **Contractor** shall keep one complete set of contract documents and drawings at the site at all times. **Contractor** shall ensure that the contract documents and drawings are current "Issued for Construction" set.

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 DEFINITIONS

- .1 Activity: element of Work performed during course of Project. Activity normally has expected duration and expected cost and expected resource requirements. Activities can be subdivided into tasks.
- .2 Bar Chart (GANTT Chart): graphic display of schedule-related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars. Generally, Bar Chart should be derived from commercially available computerized project management system.
- .3 Baseline: original approved plan (for project, work package, or activity), plus or minus approved scope changes.
- .4 Construction Work Week: Monday to Friday, inclusive, will provide five day work week and define schedule calendar working days as part of Bar (GANTT) Chart submission.
- .5 Duration: number of work periods (not including holidays or other nonworking periods) required to complete activity or other project element. Usually expressed as workdays or workweeks.
- .6 Master Plan: summary-level schedule that identifies major activities and key milestones.
- .7 Milestone: significant event in project, usually completion of major deliverable.
- .8 Project Schedule: planned dates for performing activities and the planned dates for meeting milestones. Dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives including utility replacement, pedestrian and vehicular detours, fence or barricade relocation. Monitoring and control process involves using Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.
- .9 Project Planning, Monitoring and Control System: overall system operated by Owner to enable monitoring of project work in relation to established milestones.

1.2 REQUIREMENTS

- .1 Ensure Master Plan and Detail Schedules are practical and remain within specified Contract duration.
- .2 Plan to complete Work in accordance with prescribed milestones and time frame.
- .3 Limit activity durations to maximum of approximately ten (10) working days, to allow for progress reporting.
- .4 Ensure that it is understood that Award of Contract or time of beginning, rate of progress, Interim Certificate and Final Certificate as defined times of completion are of essence of this contract.

1.3 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit to **Consultant** within five (5) working days of Award of Contract Bar (GANTT) Chart as Master Plan that details planning, monitoring and reporting of project progress.

1.4 PROJECT MILESTONES

- .1 Project milestones shall be as per the project schedule submitted by the **Contractor** and accepted by the **Owner**.

1.5 MASTER PLAN

- .1 **Contractor** to structure schedule to allow orderly planning, organizing and execution of Work as Bar Chart (GANTT).
- .2 The **Consultant** will review and return revised schedules within five (5) working days after receipt of submitted Master Plan.
- .3 **Contractor** shall revise impractical schedule and resubmit within five (5) working days.
- .4 Accepted revised schedule will become Master Plan and be used as baseline for updates.

1.6 PROJECT SCHEDULE

- .1 Develop detailed Project Schedule derived from Master Plan.
- .2 Ensure detailed Project Schedule includes as minimum milestone and activity types as follows:
 - .1 Award
 - .2 Shop Drawings, Samples
 - .3 Permits
 - .4 Mobilization
 - .5 Excavation
 - .6 Piping & Underground
 - .7 Testing
 - .8 Backfilling
 - .9 Concrete Work
 - .10 Road Work
 - .11 Landscaping
 - .12 Commissioning
 - .13 Supplied equipment long delivery items

1.7 PROJECT SCHEDULE REPORTING

- .1 Update Project Schedule on a monthly basis reflecting activity changes and completions, as well as activities in progress.
- .2 Include as part of Project Schedule, narrative report identifying Work status to date, comparing current progress to baseline, presenting current forecasts, defining problem areas, anticipated delays and impact with possible mitigation.

1.8 PROJECT MEETINGS

- .1 Discuss Project Schedule at regular site meetings, identify activities that are behind schedule and provide measures to regain slippage. Activities considered behind schedule are those with projected start or completion dates later than current approved dates shown on baseline schedule.

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- .2 Weather related delays with their remedial measures will be discussed and negotiated.
 - .3 **Contractor** to provide a two (2) week look ahead schedule at the weekly project meeting. Written look ahead schedule shall be submitted prior to the weekly meeting in accordance with Section 01 33 00 Submittal Procedures.

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 ADMINISTRATIVE

- .1 Submit to **Consultant** submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for 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, samples and mock-ups in SI Metric units.
- .4 Where item or information is not produced in SI Metric Units, converted values are acceptable.
- .5 Review submittals prior to submission to the **Consultant**. 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 considered rejected.
- .6 Notify **Consultant**, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are co-ordinated.
- .8 **Contractor's** responsibility for errors and omissions in submission is not relieved by the **Consultant's** review of submittals.
- .9 **Contractor's** responsibility for deviations in submission from requirements of Contract Documents is not relieved by the **Consultant's** review.
- .10 Keep one reviewed copy of each submission on site.

1.2 SHOP DRAWINGS AND PRODUCT DATA

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by **Contractor** to illustrate details of a portion of Work.
- .2 Submit shop drawings bearing stamp and signature of qualified professional engineer registered or licensed in the Province of Alberta, Canada.
- .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 co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .4 Allow fifteen (15) days for the **Consultant** review of each submission.
- .5 Adjustments made on shop drawings by **Consultant** are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to the **Consultant** prior to proceeding with Work.

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- .6 Make changes in shop drawings as the **Consultant** may require, consistent with Contract Documents. When resubmitting, notify the **Consultant** in writing of revisions other than those requested.
 - .7 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.
 - .8 Submissions include:
 - .1 Date and revision dates
 - .2 Project title and number
 - .3 Name and address of:
 - .1 Subcontractor
 - .2 Supplier Manufacturer
 - .4 **Contractor's** stamp, signed by **Contractor's** authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances
 - .3 Setting or erection details
 - .4 Capacities
 - .5 Performance characteristics
 - .6 Standards
 - .7 Operating weight
 - .8 Wiring diagrams
 - .9 Single line and schematic diagrams
 - .10 Relationship to adjacent work
 - .9 The **Contractor** shall, after the **Consultant's** review, distribute copies.
 - .10 Submit an electronic copy of shop drawings for each requirement requested in specification Sections and as the **Consultant** may reasonably request.
 - .11 Submit an electronic copy of product data sheets or brochures for requirements requested in specification Sections and as requested by the **Consultant** where shop drawings will not be prepared due to standardized manufacture of product.
 - .12 Submit an electronic copy of test reports for requirements requested in specification Sections and as requested by the **Consultant**.
 - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.

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- .13 Submit an electronic copy of certificates for requirements requested in specification Sections and as requested by the **Consultant**.
 - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
 - .2 Certificates must be dated after award of project contract complete with project name.
 - .14 Submit an electronic copy of manufacturer's instructions for requirements requested in specification Sections and as requested by the **Consultant**.
 - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
 - .15 Submit an electronic copy of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by The **Consultant**. Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
 - .16 Submit an electronic copy of Operation and Maintenance Data for requirements requested in specification Sections and as requested by the **Consultant**.
 - .17 Delete information not applicable to project.
 - .18 Supplement standard information to provide details applicable to project.
 - .19 If upon review by the **Consultant**, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through the same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

1.3 SAMPLES

- .1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to the **Consultant**.
- .3 Notify the **Consultant** in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by the **Consultant** are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to the **Consultant** prior to proceeding with Work.
- .6 Make changes in samples which the **Consultant** may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.4 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.

- .2 Submit transcription of insurance immediately after award of Contract.

PART 2 PRODUCTS

2.1 NOT USED

- .1 Not Used.

PART 3 EXECUTION

3.1 NOT USED

- .1 Not Used.

3.2 END OF SECTION

PART 1 GENERAL

1.1 DEFINITION

- .1 Traffic includes pedestrian, bicycle, and vehicular traffic.

1.2 REFERENCE STANDARD

- .1 Except where specified otherwise, regulate traffic in accordance with the Manual of Uniform Traffic Control Devices for Canada, current edition, as published by the National Committee on Uniform Traffic Control, and distributed by the Transportation Association of Canada.

1.3 PROTECTION OF PUBLIC TRAFFIC

- .1 Comply with requirements of Acts, Regulations and By-Laws in force for regulation of traffic or use of roadways and sidewalks upon or over which it is necessary to carry out work or haul materials or equipment.
- .2 When working on public right-of-way:
 - .1 Place equipment in position to present minimum interference and hazard to the travelling public.
 - .2 Keep equipment units as close together as working conditions will permit and preferably on same side of travelled roadway and free of sidewalks.
 - .3 Do not leave equipment on travelled roadway overnight or sidewalks.
- .3 Maintain and configure/re-configure existing traffic signals and controllers in accordance with Traffic Accommodation Plan.
- .4 Do not close any lanes of road or detour pedestrian passage without approval of the authority having jurisdiction. Before re-routing pedestrian or vehicular traffic, erect suitable detour signs and devices in accordance with instructions contained in Part D of the Manual of Uniform Traffic Control Devices for Canada. Provide sufficient crushed gravel to ensure a smooth riding surface during work.
- .5 Keep travelled roadway well graded, free of potholes and of sufficient width that required number of lanes of traffic may pass.
- .6 When deemed necessary by **Consultant**, provide well-graded, graveled detours or temporary roads and pedestrian pathways or structures to facilitate passage around restricted construction area. Provide and maintain signs and lights and maintain roadway and sidewalks.
- .7 Provide and maintain reasonable access and egress to property fronting along or in vicinity of work under Contract. Approval by the **Owner** is required if alternative access and egress to adjacent properties is required.
- .8 Provide and maintain pedestrian access to all properties adjacent to the works.
- .9 **Contractor** to obtain a Town of Canmore Road Use Permit for all work within public right-of-way.

1.4 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 may require road user response.
- .2 Supply and erect signs, delineators, barricades and miscellaneous warning devices as specified in Part D, Temporary Conditions Signs and Devices, of the Manual of Uniform Traffic Control Devices for Canada.
- .3 Place signs and other devices in locations recommended in said manual.
- .4 Continually maintain traffic control devices in use by:
 - .1 Checking signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.
 - .2 Removing or covering signs which do not apply to conditions existing from day to day.

1.5 CONTROL OF PUBLIC TRAFFIC

- .1 Provide competent flag persons, properly equipped as specified in the Manual of Uniform Traffic Control Devices for Canada, in following situations:
 - .1 When public traffic is required to pass working vehicles or equipment which may block all or part of travelled roadway.
 - .2 When it is necessary to institute one-way traffic system through construction area, or partial lane closure, or other blockage where traffic volumes are heavy, and traffic signal system is not in use.
 - .3 When workmen or equipment are employed on travelled roadway over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.
 - .4 Where temporary protection is required while other traffic control devices are being erected or taken down.
 - .5 For emergency protection when other traffic control devices are not readily available.
 - .6 In situations where complete protection for workmen, working equipment and public traffic is not provided by other traffic control devices.

PART 2 PRODUCTS

2.1 NOT USED.

PART 3 EXECUTION

3.1 NOT USED.

END OF SECTION

PART 1 GENERAL

1.1 WORK SITE ENVIRONMENTAL HEALTH & SAFETY

- .1 This **Contractor** is "**Prime Contractor**"
- .2 The **Contractor** shall, for the purposes of the Occupational Health and Safety Act (Alberta), and for the duration of their work on this site:
 - .1 Be the "Prime Contractor" for the "work site",
 - .2 Do everything that is reasonably practicable to establish and maintain a system or process that will ensure compliance with this Act and the regulations in respect of the work site, and
 - .3 Will remain "Prime Contractor" until the majority of their work on the site is completed and the **Owner** or the **Consultant** have assigned the responsibility of "Prime Contractor" to another company.
- .3 The "Prime Contractor" shall direct all sub-contractors, other contractors, employers, workers and any other persons at the "work site" on all specific Environmental Health & Safety Policies and Procedures relating to the site in order to meet the definition of "due diligence" as outlined in the Occupational Health and Safety Act & Regulations regardless of:
 - .1 Whether or not any contractual relationship exists between the "Prime Contractor" and any of these entities, and
 - .2 Whether or not such entities have been specifically identified in this Contract.
- .4 The **Owner** does not anticipate that there will be any contractors, other than those performing the Work of this Contract, engaged in work at the "work site" during the performance of the Work of this Contract. However, the Contractor may need to accommodate other trades and services to occur within their work site.

1.2 GENERAL

- .1 The **Contractor** shall observe and enforce construction safety measures required by Federal and Provincial Governments, Worker's Compensation Board and municipal statutes and authorities.
- .2 In the event of conflict between any provisions of above authorities the most stringent provision governs.
- .3 The "Prime Contractor" shall be responsible for the environmental health & safety of all persons and property on or about the project and for ensuring that the work is performed in accordance with all applicable safety requirements.
- .4 The "Prime Contractor" will have the responsibility to ensure that all personnel entering the site receive an appropriate orientation of all identified hazards and accompanying Environmental Health & Safety Policies and Procedures that have been used in risk mitigation.
- .5 The "Prime Contractor" will remain in the position of authority until such a time as the **Owner** or its representative assign the role of Prime to another contractor. This will be achieved through a signed document that clearly relinquishes the responsibilities of Prime from one contractor to another.

1.3 NOTICE

- .1 The **Contractor** shall provide at least seventy-two (72) hours written notice to all utility companies and property **Owners** in the immediate vicinity of the operations prior to the commencement of construction and, if requested, co-operate with such parties in the protection, removal or relocation of their installations and property.

1.4 ENVIRONMENTAL HEALTH & SAFETY PROGRAM

- .1 The **Contractor** shall develop, maintain and supervise for the duration of the work a comprehensive environmental health & safety program that will effectively incorporate and implement all required environmental health & safety risk mitigation.
- .2 The program shall, as a minimum, respond fully to the requirements of all applicable laws, ordinances, rules, regulations and orders and general construction practices for the environmental health & safety of persons or property, including without limitation any general environmental health & safety rules and regulations of the **Owner** and any Worker's Compensation or Occupational Health and Safety legislation or regulations that may be applicable.
- .3 The **Contractor** must perform a hazard assessment prior to the start of the project and at such intervals to ensure that all identified hazards are eliminated, controlled and that appropriate personal protective equipment is used as a mitigating factor.
- .4 All **Contractors** and sub-contractors must submit a completed "Contractor/Sub-contractor Environmental Health & Safety Requirements" form as per the **Owner's** requirements upon award of the contract and in accordance with section 01 33 00 Submittal Procedures.
- .5 The **Contractor** shall submit an Emergency Response Plan as per the **Owner's** requirements prior to construction and in accordance with section 01 33 00 Submittal Procedures.

1.5 ENVIRONMENTAL HEALTH & SAFETY OFFICER

- .1 The **Contractor** shall designate an Environmental Health & Safety Coordinator who shall be qualified and authorized to supervise and enforce compliance with the site environmental health & safety program.

1.6 JOINT ENVIRONMENTAL HEALTH & SAFETY MEETINGS

- .1 The **Contractor** shall arrange environmental health & safety meetings at his own expense.
- .2 The **Owner** and **Consultant** shall be invited to all safety meetings.
- .3 Such meetings shall occur no less frequently than once per week.
- .4 The **Contractor** shall record the minutes of such meetings and maintain a complete file for review by the **Owner** or its **Consultant** as well as any or all regulatory agencies.
- .5 The **Contractor** shall submit environmental health & safety meeting minutes to the **Consultant** regularly in accordance with section 01 33 00 Submittal Procedures.

1.7 SAFETY EQUIPMENT

- .1 The **Contractor** shall supply and maintain, at his own expense, at the office or other well-known place at the job site, safety equipment necessary to protect the workers and general public against incident or injury as prescribed by the governing authorities.

1.8 EXPLOSIVES

- .1 When the use of explosives is necessary for the performance of the work, the **Contractor** shall observe the utmost care not to endanger life or property.
- .2 The method of storing and handling explosives and highly inflammable materials shall conform to all applicable statutes, bylaws and regulations and the “Prime Contractor” shall be responsible for obtaining all required permits thereunder.

1.9 FIRE PREVENTION AND PROTECTION

- .1 All work shall be performed in a fire prevention manner.
- .2 The **Contractor** shall comply with all applicable governmental requirements and, without limiting the generality of the foregoing, and supply and maintain at the job site adequate and proper fire-fighting equipment.
- .3 The **Contractor** shall coordinate with the local Fire Department and provide a site orientation to the local Fire Chief or allocated representative within five (5) days of beginning construction.

1.10 PROVIDING FIRST AID SERVICES

- .1 As outlined in the Alberta Occupational Health & Safety Code, Section 178 (2), a “Prime Contractor” must ensure that first aid services, supplies, equipment and a first aid room are available at the work site for the type of work and the total number of workers at the site in accordance with the applicable requirements of Schedule 2 of the Occupational Health & Safety Code.

1.11 INJURY, ILLNESS AND NEAR MISS REPORTING

- .1 The “Prime Contractor” will report immediately all incidents that have resulted in an injury that required care outside of the definitions of first aid treatment to the **Consultant**. The “Prime Contractor” will provide a written report on the incident investigation, root cause analysis and any action plans that have been implemented as mitigation tools.
- .2 The “Prime Contractor” will report, in writing, all Near Misses in a weekly report that will include any changes in policies or procedures that occurred as a result of the Near Miss Report.
- .3 If death or serious injuries or damages are caused, the accident shall be promptly reported by the “Prime Contractor” to the **Owner** and the **Consultant** by telephone or messenger in addition to any reporting required under provincial laws and regulations.
- .4 If a claim is made by anyone against the “Prime Contractor” or any subcontractor on account of any incident, the “Prime Contractor” shall promptly report the facts in writing to the **Owner** and the **Consultant**, giving full details of the claim.

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 SUBMITTALS

- .1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prior to commencing construction activities or delivery of materials to site, submit Environmental and Erosion and Sediment Control Plan to the **Owner** in accordance with the Town of Canmore's Engineering Design and Construction Guidelines.

1.2 FIRES

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

1.3 DISPOSAL OF WASTES

- .1 Do not bury rubbish and waste materials on site.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

1.4 DRAINAGE

- .1 Provide erosion and sediment control plan that identifies type and location of erosion and sediment controls to be provided. Plan: include monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.
- .2 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
- .3 Do not pump water containing suspended materials into waterways, sewer or drainage systems.
- .4 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.
- .5 Take precautions to prevent depositing mud or debris on public or private roadways adjacent to the work. Clean up immediately, otherwise the **Consultant** will direct necessary cleanup with all costs charged to the **Contractor**.

1.5 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site and adjacent properties where indicated.
- .2 Protect roots of designated trees to drip line during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .3 Minimize stripping of topsoil and vegetation.
- .4 Protect all remaining trees, plants, fences and other items from damage during construction.

1.6 WORK ADJACENT TO WATERWAYS

- .1 Do not operate construction equipment in waterways.
- .2 Do not use waterway beds for borrow material.
- .3 Do not dump excavated fill, waste material or debris in waterways.
- .4 Design and construct temporary crossings to minimize erosion to waterways.
- .5 Do not skid logs or construction materials across waterways.
- .6 Deleterious material shall not be deposited into any water course or the storm sewer system, nor shall it be allowed to be transported into any water course through surface runoff.

1.7 NOISE CONTROLS

- .1 The **Contractor** shall comply with the requirements of municipal and/or provincial bylaws regarding noise abatement and hours of work and shall take all necessary steps to ensure the generation and transmission of noise and vibration, which is found to be objectionable is corrected at no additional cost to the **Owner** and to the satisfaction of the **Consultant**.

1.8 DUST CONTROL

- .1 Perform the work in a manner that will not produce an objectionable amount of dust as determined by the **Owner**. Dust control measures shall be paid for by the **Contractor**.

1.9 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this contract.
- .2 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1.10 NOTIFICATION

- .1 **Engineer** will notify **Contractor** in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of **Contractor's** Environmental Protection plan.
- .2 **Contractor**: after receipt of such notice, inform **Engineer** of proposed corrective action and take such action for approval by **Engineer**.
- .3 **Engineer** will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to **Contractor** for such suspensions.

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 DEFINITIONS

- .1 Quality Control (QC): The process of checking specific product or services to determine if they comply with relevant quality standards and identify ways to eliminate causes of unsatisfactory product or service performed.
- .2 Quality Assurance (QA): The process of ensuring that the Contractor's Quality Management Plan (QMP) (QC, non-conformances, etc.) is being followed. The results of the QA are provided as feedback to the **Contractor**, the **Consultant** and the **Owner**. Where required, the **Contractor** shall implement changes to the project based on the feedback received from the QA process.

1.2 QUALITY MANAGEMENT PROGRAM

- .1 The **Contractor** shall prepare a Quality Management Program. The purpose of the program shall be to ensure the performance of the Work in accordance with Contract requirements.
- .2 The Quality Management Program shall be described in a Quality Management Plan. The **Contractor** shall submit the Quality Management Plan to the **Owner** for acceptance in accordance with Section 01 33 00 Submittal Procedures. The Plan shall develop a logical system for tracking and documenting the Quality Control of the Work, as well as the **Contractor's** internal Quality Assurance procedures to verify the compliance of the Quality Control process. A systematic format and a set of procedures patterned on a recognized Quality Control Standard will be acceptable, subject to review by the **Owner**.
- .3 The Quality Management Plan shall, at a minimum, include the following information:
 - .1 Distribution list, providing a list of names to whom the Manual shall be distributed.
 - .2 Title page, identifying the Contract, **Contractor** and copy number.
 - .3 Revision page, identifying the revision number and date of the Manual.
 - .4 Table of Contents.
 - .5 Revision control, tabulating the revision number, date of revision, description of revisions and authorized signature.
 - .6 Details of measuring and test equipment including methods and frequency of calibration.
 - .7 Purchasing details of all materials and equipment including procurement documents and vendor's Quality Control Program standards.
 - .8 Procedures for inspection of incoming items, in-process inspection and final inspection and tagging of all supply items.
 - .9 Details of special processes as identified by the **Owner**, including qualifications of personnel and certification.
 - .10 Procedures for shipping, packaging and storage of materials.
 - .11 Procedures for maintain quality records and Statements of Compliance, including filing and storage of documents for a period of one year after Completion of the Works.
 - .12 Details of any non-conformance, including identification and recording of deficiencies, tagging procedures for "HOLD" or "REJECT" items, and final disposition of non-conformance forms by the **Contractor**.

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- .13 Inspection and test checklists, including tabulated checklists describing all manufacturing and deliver activities such as Inspection or Test, frequency of tests, description of tests, acceptance criteria of tests, such as verification, witnessing or holding tests and sign-off by the Quality Control Manager (**Contractor**) and the Quality Assurance Manager (**Owner**), if the Quality Assurance manager witnesses the tests.
 - .14 Forms used to ensure the application of the inspection and test checklist requirements. These forms shall be identified in the checklists and describe all testing requirements for Specification compliance.
 - .15 Details of the Quality Assurance Program including the Contractor's procedures to verify the compliance to the Quality Control process of on-site work and off-site work by fabricators.
 - .4 The Contractor shall appoint qualified and experienced Quality Control Personnel, who are dedicated to quality matters and who will report regularly to the Quality Control Manager (**Contractor**), as well as **Contractor's** management, at a level which shall ensure that Quality Control requirements are not to be subordinated to manufacturing, construction or delivery. The Quality Control Personnel shall be empowered by the **Contractor** to resolve quality matters. Personnel involved in Quality Assurance shall be independent of the Quality Control Process and initiated by the **Owner**.
 - .5 The Quality Management Plan shall include samples of all forms to be filled in by the Quality Control Personnel. All forms shall be signed by the Quality Control Manager (**Contractor**) and submitted promptly to the **Owner**.
 - .6 An independent check of all Work shall be performed by the **Contractor**. The **Contractor** shall appoint Quality Control Inspectors to ensure compliance of products and workmanship with Contract requirements.
 - .7 Quality Assurance Inspectors retained by the **Owner**, will periodically perform a second independent check to assess if the Quality Control process is being followed.
 - .8 The **Contractor** must facilitate any independent Quality Assurance checks by representatives designated by the **Owner**.
 - .9 At completion of the Work, an itemised digital copy of all Quality Control documents and reports shall be prepared by the **Contractor's** Quality Control Manager and submitted to the **Owner**.

1.3

TESTING

- .1 Supervision and signoff of all topsoil stripping.
- .2 Testing of all structural concrete, granular material and compaction, asphalt and all source acceptance testing.
- .3 All testing specified in the Contract Documents.
- .4 Any other testing required as a condition for deviation form the specified Contract procedures.
- .2 The quality control testing proposed and testing frequency shall at a minimum, achieve the requirements of the following:
 - .1 Wherever the project Specifications or standard Specifications refer to standards (e.g., CSA, ASTM, and others) the minimum testing frequencies in these standards shall be utilized.

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- .2 The **Contractor** and its independent Quality Control testing agency that will carry out the testing must satisfy themselves that the test frequencies being completed are sufficient to ensure the quality requirements of the QMP.
 - .3 The **Contractor** shall be fully responsible and bear all costs for all quality control testing and shall conduct such testing in the following manner:
 - .1 Provide testing facilities and personnel for the tests and inform the **Consultant** in advance to enable the **Consultant** to witness the tests if it so desired.
 - .2 Notify the **Consultant** when sampling will be conducted.
 - .3 Within one (1) day after completion of testing, submit test results to the **Consultant**. Submissions may be informal with formal test results submitted as soon as possible.
 - .4 Identify test reports with the name and address of the organization performing all tests, and the date of the tests.
 - .4 Approval of tested samples will be for characteristics or use named in such approval and shall not change or modify any Contract requirements.
 - .5 Quality Assurance testing will be undertaken by the **Owner** through an independent CSA certified testing firm. The independent testing firm will complete random sampling, inspection, and testing for the purposes of determining the compliance with Specifications and other contract documents. The frequency, location of the inspections, sampling, and tests shall be at various stages of the utility construction, concrete delivery on-site, concrete placement, granular base course placement and embankment, asphaltic concrete delivery on-site, asphaltic concrete placement etc.
 - .6 Cost of the independent quality assurance testing will be borne by the **Owner**.
 - .7 The **Owner** or **Consultant** may perform quality audits as desired. Such audits will not relax the responsibility of the **Contractor** to perform work in accordance with specifications. To facilitate this work the **Contractor** shall:
 - .1 Notify **Owner** or **Consultant** in advance of work which the **Owner** or **Consultant** may want to test.
 - .2 Submit samples and/or materials required for testing as specifically requested in the Specifications or as requested by the **Owner** or **Consultant**. Submit within two (2) days so as not to cause delay in the Work.
 - .3 Provide labour and facilities to obtain and handle samples and materials on-site.
 - .4 Allow the **Consultant** access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
 - .5 If the **Contractor** covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
 - .6 The **Consultant** will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, the **Owner** shall pay cost of examination and replacement.

1.4 INDEPENDENT INSPECTION AGENCIES

- .1 Independent Inspection/Testing Agencies will be engaged by the **Owner** for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by the **Owner**.
- .2 The **Contractor** shall assist the inspector or testing agency in carrying out their duties.
- .3 Employment of independent inspection/testing agencies retained by the **Owner** does not relax responsibility to perform Work in accordance with Contract Documents.
- .4 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by the **Consultant** at no cost to the **Owner**. **Contractor** shall pay costs for re-testing and re-inspection.

1.5 ACCESS TO WORK

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

1.6 PROCEDURES

- .1 Notify appropriate agency and the **Consultant** in advance of requirement for tests, in order that attendance arrangements can be made.
- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.7 REJECTED WORK

- .1 Any instances of unacceptable work discovered by either the Quality Control or Quality Assurance personnel will require the preparation of a non-conformance report (NCR).
- .2 If instances of unacceptable work are discovered by the **Owner** or **Consultant**, the **Owner** or **Consultant** Departmental Representative may issue a non-conformance report (NCR).
- .3 The **Contractor** shall expediently correct any non-conformances, whether the result of poor workmanship, use of defective products or damage; and whether incorporated in the Work or not, the **Contractor** shall replace or re-execute in accordance with the Contract Documents at the **Contractor's** expense.
- .4 Payment for the Work itself may be withheld until the NCR issue has been resolved to the satisfaction of the **Owner**.
- .5 If in opinion of the **Consultant**, it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, the **Consultant** will deduct from Contract Price the difference in value between Work performed and that called for by Contract Documents, the amount of which will be determined by the **Consultant**.

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- .6 Other **Contractor's** work destroyed or damaged by such removals or replacements shall be made good promptly at the **Contractor's** expense.

1.8 REPORTS

- .1 Submit one (1) electronic copy of inspection and test reports to the **Consultant**.
- .2 Submit to the Consultant one (1) electronic copy of all Non-Conformance Reports.
- .3 Provide copies to subcontractor of work being inspected or tested, and to the manufacturer or fabricator of material being inspected or tested.

1.9 TESTS AND MIX DESIGNS

- .1 Furnish test results and mix designs as requested.

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 SUBMITTALS

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

1.2 INSTALLATION AND REMOVAL

- .1 Provide temporary utilities controls in order to execute work expeditiously.
- .2 Remove from site all such work after use.

1.3 DEWATERING

- .1 The **Contractor** is to provide temporary drainage and pumping facilities to keep excavations and site free from standing water as required at their own cost (excluding groundwater).
- .2 Provide all equipment, labour and materials to keep excavations and site free from water to permit construction of the project, and to protect existing surface and subsurface facilities.
- .3 Provide temporary drainage and pumping facilities to maintain construction areas and site free of standing water, to the approval of Alberta Environment and authority having jurisdiction.
- .4 Keep construction areas free of water and protect open areas against flooding and damage due to surface run-off, while work is in progress.
- .5 Handle discharged water in strict accordance with all applicable environmental regulations and to the satisfaction of Alberta Environment and the authority having jurisdiction and, if applicable, to conform to LEED® program requirements. Dispose of water per Alberta Environment and the authority having jurisdiction in a manner not detrimental to public and private property, or any portion of work completed or under construction.
- .6 Provide flocculation tanks, settling basins, or other treatment facilities to remove suspended solids or other materials before discharging to water courses or drainage areas, in accordance with Parks Canada, Alberta Environment and local authority requirements.
- .7 Bear all costs for remedial work, and/or the cost to remove saturated material and install additional material to replace saturated material resulting from the failure to carry out the recommended dewatering techniques.

1.4 WATER SUPPLY

- .1 The **Owner** shall, provide and pay all cost for water required for the performance of the work, in accordance with governing regulations and ordinances.
- .2 Arrange for connection with appropriate utility company if required and pay costs for installation, maintenance and removal.

1.5 TEMPORARY HEATING AND VENTILATION

- .1 **Contractor** shall provide and pay for all costs for temporary heating required during construction period, including attendance, maintenance and fuel.
- .2 **Contractor** to provide temporary heat and ventilation in enclosed areas as required to:

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- .1 Facilitate progress of Work.
 - .2 Protect Work and products against dampness and cold.
 - .3 Prevent moisture condensation on surfaces.
 - .4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials.
 - .5 Provide adequate ventilation to meet health regulations for safe working environment.
- .3 Ventilating:
- .1 Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.
 - .2 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.
 - .3 Dispose of exhaust materials in manner that will not result in harmful exposure to persons.
 - .4 Ventilate storage spaces containing hazardous or volatile materials.
 - .5 Ventilate temporary sanitary facilities.
 - .6 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.
- .4 Maintain strict supervision of operation of temporary heating and ventilating equipment to:
- .1 Conform to applicable codes and standards.
 - .2 Enforce safe practices.
 - .3 Prevent abuse of services.
 - .4 Prevent damage to finishes.
 - .5 Vent direct fired combustion units to outside.
- .5 Be responsible for damage to Work due to failure in providing adequate heat and protection during construction.

1.6 TEMPORARY POWER AND LIGHT

- .1 The **Contractor** shall provide and pay all cost for temporary power during construction for temporary lighting and operation of power tools at no cost to the **Owner**.
- .2 Furnish and install all necessary temporary wiring, distribution boxes, panels, etc. and upon completion of work, remove all such temporary materials.
- .3 Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal.
- .4 Provide and maintain temporary lighting throughout project.
- .5 Manage lighting in a way to minimize light pollution and glare on private property.

1.7 TEMPORARY COMMUNICATION FACILITIES

- .1 **Contractor** shall provide and pay all cost for temporary telephone, fax or data hook up, line(s) and equipment necessary for his own use.

1.8 TEMPORARY GAS

- .1 Provide and pay all costs for gas required for the performance of the work, in accordance with governing regulations and ordinances.
- .2 Furnish and install all necessary temporary piping and upon completion of the work remove all such temporary piping.

1.9 SANITARY FACILITIES

- .1 Furnish and install all required temporary toilet buildings with sanitary toilets for use of all workers; comply with all minimum requirements of the Health Department or other public agency having jurisdiction; maintain in a sanitary condition at all times. The location of the facilities shall be agreed with the **Consultant**.

1.10 FIRE PROTECTION

- .1 Provide and pay all cost for and, maintain temporary fire protection equipment during performance of Work required by organization having jurisdiction and governing codes, regulations and bylaws.
- .2 Burning rubbish and construction waste materials is not permitted on site.

1.11 SITE CLEANLINESS

- .1 Maintain the work in a tidy condition, free from the accumulation of waste products and debris.
- .2 Remove waste material and debris from the site and deposit in waste containers at the end of each working day.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Maintain access to public waste receptacles.

1.12 WINTER CONSTRUCTION

- .1 Special construction methods required to perform the work in severe weather shall be the responsibility of the **Contractor**.
- .2 Where the specifications call for work to be performed within a given temperature range or above a minimum temperature, it shall be the **Contractor's** responsibility to provide all temporary enclosures and heat necessary to provide the conditions specified.
- .3 Where compaction of backfill is specified, the **Contractor** shall perform the work in a manner such that compaction can be achieved.
- .4 Where weather conditions are such that compaction of backfill consisting of excavated materials is not possible, the **Contractor** shall provide unfrozen granular material for backfill, at the **Contractor's** expense.
- .5 Additional costs associated with winter construction are to be submitted in writing to the **Owner** for consideration prior to work proceeding.

1.13 ACCESS ROADS

- .1 Construct temporary access roads as necessary to perform the work and maintain temporary access roads until construction is over or until permanent access is established.
- .2 Locations and drainage facilities for temporary access roads are subject to the approval of the **Consultant**.
- .3 No direct payment will be made to the **Contractor** for construction of temporary access roads and removal and restoration after construction completion.
- .4 If authorized to use existing roads for access to the project site, the **Contractor** shall maintain such roads for duration of the contract and make good damage resulting from **Contractor's** use of road.

1.14 EXISTING UTILITIES AND STRUCTURES

- .1 Existing utilities and structures include the following: pipes, culverts, ditches or other items which are a part of an existing sewage, drainage or water system; or which are a part of a gas, electrical, telephone, television, telecommunications or other utility system. Also included are streets, sidewalks, curbs, gutters, swales, poles, fences or any other adjacent structures encountered during construction.
- .2 Temporary water, sanitary, power, gas etc. is required to all residences impacted by construction.
- .3 The **Contractor** shall be responsible for protection, removal or replacement of existing utilities and structures, or for repair of any damage which may occur during construction.
- .4 Existing utilities and structures may be shown on the drawings or described in the specifications. Such information is shown for design purposes and the existence, location and detail given is information that is obtained during the design period and is not necessarily complete, correct or current.
- .5 The **Contractor** shall pay all costs and be responsible for establishing locations and state of use of all existing utilities that may affect the work. The **Contractor** shall make satisfactory arrangements with the utility companies involved for the location, protection and inspection of existing utilities.
- .6 Notice in writing shall be given by the **Contractor** to the utilities companies 48 hours before work commences in the vicinity of existing utilities.
- .7 The **Contractor** shall pay all the costs involved in protection of utilities, inspection of utilities, and all costs due to delays because of existing utilities and structures.
- .8 The **Contractor** shall provide for the uninterrupted flow of all water courses, sewers and drains encountered during the work.
- .9 Access shall be maintained to all existing structures such as valves, hydrants, meter chambers and control structures at all times during construction.
- .10 If interruption of service provided by an existing utility is necessary, the planned shut-down shall be approved by the utility companies. Requests for shut-down shall be made by the **Contractor** in writing at least 48 hours in advance.
- .11 The **Contractor** shall notify all customers or make arrangements with the utility company to notify all customers 24 hours in advance of a shut-down.

- .12 Unless otherwise specified the **Contractor** shall make arrangements of relocation of existing utilities that the **Consultant** requests to be relocated; and the actual relocation shall be constructed by the **Owner** of the utility. The **Contractor** will be reimbursed the invoiced cost of the relocation. No extra payment is permitted for delays, or standby time.

1.15 CONSTRUCTION SIGNAGE AND SAFETY

- .1 This project is located within a residential and commercial area. The **Contractor** shall be responsible for the regulation of traffic during construction, and shall perform the work in a manner that will cause the least disruption of pedestrian and vehicular traffic.
- .2 The **Contractor** shall co-ordinate the work with the **Consultant**, and the **Owner** to reduce traffic problems.
- .3 Provision of flaggers, traffic signs, and other traffic controls shall be the **Contractor's** responsibility and shall be in accordance with the TAC Manual of Uniform Traffic Control Devices and shall be located to the satisfaction of the **Consultant**.
- .4 The **Contractor** shall supply and maintain at no extra cost all barriers, barricades, warning signs, detours, 1.80m black construction fencing, flaggers and all other devices to protect the workers and general public against accidents or injury. Barricades shall accommodate light signage affixed by the **Owner** branded with Bear Street Refreshing. All applicable safety standards shall be followed. All excavations or obstructions shall be secured and clearly marked between sunset and sunrise with proper warning flares or lights.

1.16 HAUL ROUTES

- .1 Haul routes (roadways, lanes) shall be subject to the approval of the authority having jurisdiction. The **Contractor** shall be responsible for damage and/or spillage on all roads used for hauling materials and equipment to and from the site. The **Contractor** shall immediately clean and/or restore the affected areas.
- .2 Trucks must be loaded in such a manner that no spillage occurs during the haul.
- .3 The **Contractor** shall have all required permits in place with the authority having jurisdiction to use designated haul routes.

1.17 MAINTENANCE OF UTILITY SERVICES

- .1 The **Contractor** shall be responsible for providing, maintaining and repairing temporary utilities services.
- .2 The costs for providing temporary utility services shall be included in the overall tender price and no extra payment will be allowed.
- .3 During construction and warranty periods, if the **Contractor** fails to respond to requests for remedial works regarding maintaining or repairing temporary utility services, within reasonable time, the **Owner** shall have the right to carry out the necessary remedial works and shall charge the costs of the remedial works done to the **Contractor**.

1.18 TRAFFIC REGULATION

- .1 The **Contractor** shall be responsible for the regulation of pedestrian, bike and vehicular traffic during construction, and shall perform the work in a manner that will cause the least disruption of traffic.

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- .2 The **Contractor** shall co-ordinate the work with the **Consultant**, and the **Owner** to reduce traffic problems.
 - .3 Provision of flaggers, traffic signs, and other traffic controls shall be the **Contractor's** responsibility and shall be in accordance with the TAC Manual of Uniform Traffic Control Devices.
 - .4 The **Contractor** shall supply all barriers, barricades, warning signs, detours, fences, flaggers and all other devices to protect the public. All applicable safety standards shall be followed.
 - .5 The **Contractor** shall obtain approval to block traffic temporarily if it is necessary to do so to perform the work. Obtain the written approval of applicable municipal departments, the **Owner** and the **Consultant**. At least two (2) weeks prior to actually blocking traffic notify the following:
 - .1 RCMP Detachment
 - .2 Fire Department
 - .3 Engineering Department
 - .4 Operations Department
 - .5 Utilities Companies
 - .6 Abutting Property Owners, businesses and residents
 - .6 The **Contractor** shall maintain/provide access to all residential and commercial property adjacent to the work at all times.
 - .7 Alternate access to residents and businesses to be provided in accordance with the approved Traffic Management Plan. The **Contractor** shall provide two days advance notification of access changes to residents and businesses, and the **Owner**, and shall coordinate changes with the **Owner** and the affected residents and business community.
 - .8 Adequate construction parking meeting local regulations shall be provided by the **Contractor**.
 - .9 Haul routes shall be maintained by the **Contractor**. They shall be kept open to traffic and shall be clean at all times.

PART 2 PRODUCTS

2.1 NOT USED.

PART 3 EXECUTION

3.1 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- .1 Provide and pay all cost for temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.
- .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

END OF SECTION

PART 1 GENERAL

1.1 INSTALLATION AND REMOVAL

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Remove from site all such work after use.

1.2 SITE ENCLOSURE

- .1 Move and adapt the site enclosure to minimize disruptions to the public and to ensure efficient movement of pedestrians through the site.
- .2 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.
- .3 Provide fencing around open excavations.
- .4 Where fencing is not provided around active work areas, the **Contractor** shall provide delineation to the satisfaction of the **Owner** to ensure public safety.

1.3 BARRICADES

- .1 In the event that an excavation cannot be immediately backfilled after the work, provide secure, rigid barricades around the excavation site.

1.4 ACCESS TO SITE

- .1 Provide and maintain access roads, temporary walkways to private property, access to parking lots, sidewalk crossings, ramps and construction runways as may be required for access to Work.

1.5 PUBLIC TRAFFIC FLOW

- .1 Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect public.

1.6 FIRE ROUTES

- .1 Maintain access to property including overhead clearances for use by emergency response vehicles.

1.7 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

- .1 Protect surrounding private and public property from damage during performance of Work.
- .2 The Contractor shall be responsible for damage incurred due to lack of or improper protection.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Fabric Type (Polyethylene Safety Fence)

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- .1 High density polyethylene fencing material with; 33 mm x 33 mm square or diamond shaped mesh, minimum height of 1200 mm, orange colour. Tensar Safety Grid-GS as manufactured by Nilex Inc. or approved alternate.
 - .2 Posts
 - .1 Studded Steel T-Posts
 - .1 Minimum length - 900 mm longer than the fabric width.
 - .2 Portable Posts
 - .1 The Contractor shall submit details for approval
 - .3 Gates
 - .1 The Contractor shall submit details for approval for gates for access to working area.
 - .4 Flagging/Ribbons
 - .1 Fluorescent orange or yellow as approved by the Consultant. Part 3.0 – Execution

2.2 GRADING

- .1 Remove debris and grade between posts to provide ground clearance between 40 mm and 100 mm.

2.3 POST SPACING

- .1 Space T-posts at 3.0 m centre to centre. If portable posts are used, reduce spacing to suit.

2.4 POST SETTING - T-POSTS

- .1 Drive T-posts into the ground, at specified spacing.
- .2 Set posts in line and plumb so that the fence forms a straight line between corner posts.
- .3 Install straining posts where required.

2.5 FABRIC INSTALLATION

- .1 Set braces for gates and corners.
- .2 Install fabric in accordance with the manufacturer's instructions.
- .3 Fasten fabric to posts and bracing wire with nylon ties.
- .4 Stretch fabric and secure using steel bars in accordance with the manufacturer's instructions.

2.6 FLAGGING/RIBBON INSTALLATION

- .1 Attach ribbon to trees around environmental reserve and protected areas.

2.7 CLEAN-UP

- .1 Clean up debris and trim all areas disturbed.

PART 3 EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 GENERAL

1.1 REFERENCES

- .1 Within text of each specifications section, reference may be made to reference standards.
- .2 Conform to these reference standards, in whole or in part as specifically requested in specifications.
- .3 If there is question as to whether products or systems are in conformance with applicable standards, the **Consultant** reserves right to have such products or systems tested to prove or disprove conformance.
- .4 Cost for such testing will be born by the **Owner** in event of conformance with Contract Documents or by **Contractor** in event of non-conformance.

1.2 QUALITY

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Procurement policy is to acquire, in cost effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition. Make reasonable efforts to use recycled and recovered materials and in otherwise utilizing recycled and recovered materials in execution of work.
- .3 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.

1.3 AVAILABILITY

- .1 Within ten (10) days of award of contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify the **Consultant** of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.
- .2 In event of failure to notify the **Consultant** at commencement of Work and should it subsequently appear that Work may be delayed for such reason, the **Consultant** reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.4 STORAGE, HANDLING AND PROTECTION

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Remove and replace damaged products at own expense and to satisfaction of the **Consultant**.

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- .5 Touch-up damaged factory finished surfaces to **Consultant's** satisfaction. Use touch-up materials to match original.

1.5 TRANSPORTATION

- .1 Pay costs of transportation of products required in performance of Work.
- .2 Transportation cost of products supplied by **Owner** will be paid for by the **Owner**. **Contractor** to unload, handle and store such products.

1.6 MANUFACTURER'S INSTRUCTIONS

- .1 Unless otherwise indicated in specifications install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify the **Consultant** in writing, of conflicts between specifications and manufacturer's instructions, so that the **Consultant** will establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes the **Consultant** to require removal and re-installation at no increase in Contract Price or Contract Time.

1.7 QUALITY OF WORK

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify the **Consultant** if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. The **Consultant** reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with the **Consultant**, whose decision is final.

1.8 CO-ORDINATION

- .1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

1.9 REMEDIAL WORK

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.
- .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.10 LOCATION OF FIXTURES

- .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
- .2 Inform the **Consultant** of conflicting installation. Install as directed.

1.11 EXISTING UTILITIES

- .1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, and pedestrian and vehicular traffic.
- .2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

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 QUALIFICATIONS OF SURVEYOR

- .1 The **Contractor** shall provide and pay for the services of a land surveyor, licensed to practice in Alberta, acceptable to the **Engineer**.

1.2 SURVEY REFERENCE POINTS

- .1 Existing base horizontal and vertical control points are designated on drawings.
- .2 Locate, confirm and protect control points prior to starting site work. Preserve permanent reference points during construction.
- .3 Make no changes or relocations without prior written notice to **Engineer**.
- .4 Report to **Engineer** when reference point 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.

1.3 SURVEY REQUIREMENTS

- .1 Establish 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 The **Contractor** shall provide detailed layout for trenching, water, sanitary, storm, concrete, roadwork signalization, illumination, landscaping and all appurtenances and installations in accordance with the requirements of the applicable specifications.
- .3 The **Contractor** shall provide all necessary survey instruments, stakes and other material required to establish lines and levels and layout of the Work, by instrumentation.
- .4 The **Contractor** shall give forty-eight (48) hours advance notice to the **Engineer** before the respective construction starts. The **Engineer's** check on the **Contractor's** survey work and grade sheets shall not relieve the **Contractor's** responsibility for the survey work.
- .5 The **Contractor** shall locate, confirm and protect the control points and legal pins or he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their loss or disturbance.
- .6 The **Contractor** shall not proceed with the work until he has received from the **Engineer** such base horizontal and vertical control points and instructions required for the execution of the work.
- .7 The **Contractor** shall, before commencing work at any point, satisfy himself to the meaning and correctness of all stakes and instructions. No claims shall be considered for any allowance based on alleged inaccuracies, failure to read reference points correctly, or failure to interpret instructions correctly.
- .8 If the **Contractor**, in the course of work, finds any discrepancy between the drawings and the physical conditions of the locality or any errors or omissions in the drawings or in the layout as given by points and instructions, he shall inform the **Engineer** immediately in writing, and the **Engineer** shall promptly verify the same and issue appropriate instructions. Any work done after such discovery, before further work is authorized, will be done at the **Contractor's** risk.
- .9 The layout of the work shall be done in accordance with the approved work schedule prepared by the **Contractor**, as updated from time to time.

1.4 EXISTING SERVICES

- .1 Before commencing work, establish location and extent of service lines in area of Work and notify the **Engineer** of findings.
- .2 Remove abandoned service lines within 2 m of structures. Cap or otherwise seal lines at cut-off points as directed by the **Engineer**.

1.5 LOCATION OF EQUIPMENT AND FIXTURES

- .1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.
- .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
- .3 Inform the **Engineer** of impending installation and obtain approval for actual location.
- .4 Submit field drawings to indicate relative position of various services and equipment when required by **Engineer**.

1.6 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 Record locations of maintained, re-routed and abandoned service lines.

1.7 SUBMITTALS

- .1 Submit name and address of Surveyor to the **Engineer**. On request of **Engineer**, submit documentation to verify accuracy of field engineering work.
- .2 Submit certificate signed by surveyor certifying and noting those elevations and locations of completed Work that conform to Contract Documents.

1.8 SUBSURFACE CONDITIONS

- .1 Promptly notify the **Engineer** in writing if subsurface conditions at Place of Work differ materially from those indicated in Contract Documents, or a reasonable assumption of probable conditions based thereon.
- .2 After prompt investigation, should the **Engineer** determine that conditions do differ materially, instructions will be issued for changes in Work as provided in Changes and Change Orders.

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 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by **Owner** or other contractors.
- .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by the **Consultant**. Do not burn waste materials on site.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Provide on-site containers for collection of waste materials and debris including animal proof containers for waste that may be a wildlife attractant.
- .5 Provide and use marked separate bins for recycling.
- .6 Dispose of waste materials and debris off site.
- .7 **Contractor** will be responsible for street sweeping on transport routes as required if disturbed material/debris is tracked outside the site.

1.2 FINAL CLEANING

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Prior to final review remove surplus products, tools, construction machinery and equipment.
- .3 Remove waste products and debris other than that caused by **Owner** or other **Contractors**.
- .4 Remove waste materials from site at regularly scheduled times or dispose of as directed by the **Consultant**. Do not burn waste materials on site.
- .5 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .6 Broom clean and wash exterior walks, rake clean other surfaces of grounds.
- .7 Clean and sweep gutters and paved areas.
- .8 Clean drainage systems.

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 INSPECTION AND DECLARATION

- .1 Contractor's Inspection: **Contractor** and subcontractors: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify **Consultant** in writing of satisfactory completion of **Contractor's** inspection and that corrections have been made.
 - .2 Request **Consultant** Inspection.
- .2 **Consultant** Inspection: **Consultant** and **Contractor** will perform inspection of Work to identify obvious defects or deficiencies. **Contractor** to correct Work accordingly.
- .3 Completion: submit written certificates that following have been performed:
 - .1 Work has been completed and inspected for compliance with Contract Documents.
 - .2 Defects have been corrected and deficiencies have been completed.
 - .3 Equipment and systems have been tested, adjusted and balanced and are fully operational.
 - .4 Required certificates have been submitted.
 - .5 Operation of systems have been demonstrated to **Owner's** personnel.
 - .6 Work is complete and ready for final inspection.
- .4 Final Inspection: when items noted above are completed, request final inspection of Work by **Consultant, Contractor and Owner** in accordance with the Construction Completion Certificate (CCC) and Final Acceptance Certificate (FAC) requirements noted in the Town of Canmore Engineering Design and Construction Guidelines. If Work is deemed incomplete by **Consultant**, complete outstanding items and request re-inspection.
- .5 Declaration of Substantial Performance: when **Consultant** considers deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for certificate of Substantial Performance.
- .6 Commencement of Lien and Warranty Periods: date of **Consultant's** acceptance of submitted declaration of Substantial Performance shall be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.
- .7 Final Payment: when the **Consultant** considers final deficiencies and defects have been corrected and it appears requirements of Contract have been totally performed, make application for final payment. If Work is deemed incomplete by **Consultant**, complete outstanding items and request re-inspection.

1.2 CLEANING

- .1 In accordance with Section 01 74 11 – Cleaning

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 SUBMITTALS

- .1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures
- .2 Prepare instructions and data using personnel experienced in maintenance and operation of described products.
- .3 Copy will be returned after final inspection, with **Consultant** comments.
- .4 Revise content of documents as required prior to final submittal.
- .5 Two (2) weeks prior to Substantial Performance of the Work, submit to the **Consultant** two (2) final hard copies and an electronic copy of operating and maintenance manuals in English.
- .6 Ensure spare parts, maintenance materials and special tools provided are new, undamaged or defective, and of same quality and manufacture as products provided in Work.
- .7 Furnish evidence, if requested, for type, source and quality of products provided.
- .8 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.
- .9 Pay costs of transportation.

1.2 AS-BUILTS AND SAMPLES

- .1 Maintain, in addition to requirements in General Conditions, at site for **Consultant** one record copy of:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Change Orders and other modifications to Contract.
 - .5 Reviewed shop drawings, product data, and samples.
 - .6 Field test records.
 - .7 Inspection certificates.
 - .8 Manufacturer's certificates.
- .2 Store record documents and samples in field office apart from documents used for construction and digitally. Provide secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by **Consultant** and submit at substantial completion.
- .6 Outstanding submittal of record documents by the **Contractor** shall be noted as a deficiency and a deficiency holdback amount of \$5,000 shall be applied.

1.3 RECORDING ACTUAL SITE CONDITIONS

- .1 Record information on drawings, provided by the **Consultant**.
- .2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.
- .3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- .4 Contract Drawings and shop drawings: mark each item to record actual construction, including:
 - .1 Measured depths.
 - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - .3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
 - .4 Field changes of dimension and detail.
 - .5 Changes made by change orders.
 - .6 Details not on original Contract Drawings.
 - .7 References to related shop drawings and modifications.
- .5 Specifications: mark each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
 - .2 Changes made by Addenda and change orders.
- .6 Other Documents: maintain manufacturer's certifications, inspection certifications and field test records required by individual specifications sections.

1.4 WARRANTIES AND BONDS

- .1 Assemble approved information in binder and submit upon acceptance of work. Organize binder as follows:
 - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
 - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
 - .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten (10) days after completion of applicable item of work.
 - .4 Verify that documents are in proper form, contain full information, and are notarized.
 - .5 Co-execute submittals when required.
 - .6 Retain warranties and bonds until time specified for submittal.
- .2 Except for items put into use with **Consultant's** permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.
- .3 Conduct joint twenty-four (24) month warranty inspection, measured from time of acceptance, by **Consultant**.

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- .4 Respond in a timely manner to oral or written notification of required construction warranty repair work.
 - .5 Written verification will follow oral instructions. Failure to respond will be cause for the **Consultant** to proceed with action against **Contractor**.

1.5 PRE-WARRANTY CONFERENCE

- .1 Meet with **Consultant**, to develop understanding of requirements of this section. Schedule meeting prior to contract completion, and at time designated by **Consultant**.
- .2 **Consultant** will establish communication procedures for:
 - .1 Notification of construction warranty defects
 - .2 Determine priorities for type of defect
 - .3 Determine reasonable time for response
- .3 Provide name, telephone number and address of licensed and bonded company that is authorized to initiate and pursue construction warranty work action.
- .4 Ensure contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

PART 2 PRODUCTS

2.1 NOT USED

- .1 Not Used.

PART 3 EXECUTION

3.1 NOT USED

- .1 Not Used.

END OF SECTION