



**Associated  
Engineering**

*GLOBAL PERSPECTIVE.  
LOCAL FOCUS.*

# **CONTRACT DOCUMENTS**

## **Resort Village of Candle Lake**

### **Westside Trail Improvements**



**October 2018**



**TABLE OF CONTENTS**

**PAGES**

**DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS**

Section 00 01 10 - Table of Contents	1
Section 00 11 16 - Invitation to Bid	1
Section 00 21 13 - Instructions to Bidders	6
Section 00 41 00 - Bid Form	4

**DIVISION 01 - GENERAL REQUIREMENTS**

Section 01 10 00 - General Requirements	4
---	---

**DIVISION 32 - EXTERIOR IMPROVEMENTS**

Section 32 11 23 – Granular Base Course	3
Section 32 15 00 – Crushed Fines Aggregate Surfacing	2
Section 33 42 13 – Pipe Culverts	2

Drawing – Westside Trail Upgrades	1
-----------------------------------	---

**END OF DOCUMENT**

Sealed bids marked "Bid for **“RESORT VILLAGE OF CANDLE LAKE - WESTSIDE TRAIL IMPROVEMENTS** " will be received at the Candle Lake Village Office, no later than 2 pm on November 8th, 2018.

The work involves reconstruction of the Westside Trail, which generally includes but it not limited to placement and compaction of granular materials, and installation of small diameter culverts.

Contract Documents will be available for pickup by interested General Contractors at the Candle Lake Village Office on or after October 30<sup>th</sup>, 2018 upon the receipt of a deposit of \$50 per set, GST included. Deposits will be refunded only to those General Contractors submitting bids within 7 days of tender closing date.

Technical inquiries by bidders are to be directed to Jeff Horan P.Eng., at Associated Engineering by email at horanj@ae.ca or at 306-764-3040.

The lowest or any bid will not necessarily be accepted.

**Part 1 General**

**1.1 DEFINITIONS**

.1 Definitions

- .1 **“Bid Closing Time”** means the time and date stipulated for receipt of bids in Article 1.3.1.1 of this Section as may be amended by addendum.
- .2 **“Bid Documents”** means the bid documents obtained in accordance with Article 1.3.1.1 of these Instructions to Bidders and comprising all of the documents and drawings listed in the Table of Contents thereof and any addenda that may be issued thereto.
- .3 **“Bid Form”** means Section 00 41 00 of the Bid Documents and the supplements thereto.
- .4 **“Bidder”** means any holder of Bid Documents.
- .5 **“Total Bid”** means the amount entered by the Bidder into the Bid Form as may be adjusted as provided for by Articles 1.9.7.1 and 1.9.7.4 of this Section.

**1.2 LIMITATION OF LIABILITY**

- .1 The Bidder agrees that the Owner’s sole obligation, in return for the Bidder’s preparation and submission of its bid, is to give consideration to the bid in accordance with the Contract Documents. The Bidder hereby waives any claim for damages or costs of any nature against the Owner and the Engineer (including, without limitation, the cost of preparing and submitting the bid, and any anticipated profits and contributions to overhead) arising out of the Owner’s use of its discretion under the Contract Documents and the Engineer’s advice to the Owner.

**1.3 INVITATION**

.1 Bid Call

- .1 Offers signed under seal, executed, and dated will be received by the Candle Lake Village office at **2 pm** local time on **November 8th, 2018**.
- .2 Offers received after the Bid Closing Time will be returned to the Bidder unopened.
- .3 Offers will be opened privately shortly after the Bid Closing Time.

**1.4 INTENT**

- .1 The intent of this bid process is to obtain an offer to perform work to complete the reconstruction and installation of the Westside Trail in the Resort Village of Candle Lake for a Unit Price contract, in accordance with the Contract Documents. Refer to Section 01 10 00 – General Requirements for a description of work required and conditions under which work will be carried out.

**1.5 CONTRACT/BID DOCUMENTS**

.1 Availability

- .1 Bid Documents shall be obtained at the Candle Lake Village office.

- .2 General Contractors can obtain Bid Documents upon receipt of payment by cash or cheque payable to the Resort Village of Candle Lake. In the amount of \$50.00 per set, GST included.
  - .3 General Contractors obtaining Bid Documents must provide contact information (fax number, phone number, email address, mailing address) when obtaining Bid Documents. Accurate and complete contact information is required for distribution of addenda, if any.
  - .4 Bid documents irregularly obtained from sources other than those provided for in Article 1.5.1.1 (“unofficial bid documents”) are used entirely at the risk of the Person who holds them. Neither Engineer nor Owner undertakes to provide information or addenda to Persons holding unofficial bid documents. Any use which a Person makes of unofficial bid documents or any reliance on or decisions to be made based on them, are the responsibility of such Persons. Engineer and Owner accept no responsibility for damages, if any, suffered by any Person as a result of decisions made or actions based on unofficial bid documents. Bids received from Persons holding unofficial bid documents may be declared informal at the sole and unfettered discretion of the Owner and if so declared will be rejected.
  - .5 Deposit will be refunded if Bid Documents are returned complete, undamaged, unmarked and reusable within 7 days of bid submission. Failure to comply will result in forfeiture of deposit.
  - .6 Bid Documents are made available only for the purpose of obtaining offers for this project. Their use does not confer a license or grant for other purposes.
- .2 Examination
- .1 Bid Documents may be viewed at the Candle Lake Village office.
  - .2 Bid Documents are on display only at this office.
  - .3 Upon receipt of Bid Documents, verify that documents are complete. Notify Engineer should the documents be incomplete.
  - .4 Immediately notify Engineer upon finding discrepancies or omissions in Bid Documents.
- .3 Queries/Addenda
- .1 Direct questions to Jeff Horan at 306-764-3040, or email at horanj@ae.ca.
  - .2 Addenda will be in written form and may be issued during the bidding period. All addenda become part of the Contract Documents. Include costs in the Total Bid.
  - .3 Verbal answers are only binding when confirmed by addendum.
  - .4 Clarifications requested by Bidders must be in writing not less than five (5) Business Days before Bid Closing Time. The reply will be in the form of an addendum, a copy of which will be forwarded to known Bidders.
- .4 Proposed Substitutions
- .1 The Contractor shall not supply substitute goods or services without the written approval of the Engineer.

- 
- .5     Warranty
- .1     The Contractor warrants that the goods and services supplied under this Contract will perform in accordance to the specifications for a period of 12 months from the date of Completion Certificate for this Contract.
- .2     If the goods are found defective within the warranty period, the Contractor will repair or replace defective equipment with new equipment within 30 days of being notified by the Engineer, on behalf of the Owner.
- .3     If warranty services are provided, the item(s) that are repaired or replaced will be warranted for a period of 12 months from the date of service.
- .6     Insurance
- .1     The Contractor shall carry \$2,000,000 Comprehensive General Liability insurance and provide the insurance endorsement certificate when requested by the Owner or Engineer, on behalf of the Owner.
- .7     Acceptance
- .1     All work completed is subject to acceptance by the Engineer within a reasonable time after inspection at the site location.
- .2     The Engineer has the right to reject any work not in accordance with the Contract.
- .3     The Engineer shall notify the Contractor of rejection whereupon the work will be completed to the satisfaction of the Engineer at the Contractor's cost.
- .4     Damages to any goods, material or equipment resulting from work completed will be charged to the Contractor.
- .8     Insolvency
- .1     If the Contractor becomes insolvent this Contract may be cancelled at the option of the Owner without liability
- .9     Indemnification
- .1     The Contractor will defend, indemnify and hold harmless the Owner from all claims, actions, demands, loss and costs of action arising from injury, death, or damage to any property, when such injury or damage results in whole or in part from the acts or omissions of the Contractor.
- .10    Damages
- .1     Neither the Contractor nor the Owner have any liability for any breach caused by extreme weather or other acts of God or any other cause beyond such party's reasonable control.
- .2     Neither the Contractor nor the Owner shall be liable to the other for any consequential losses or damages including but not limited to losses or use, profits, business, reputation or financing.
- .11    Confidentiality
- .1     The Contractor undertakes to hold all information related to this Contract in strict confidence and neither to disclose or release in any manner such confidential information to any third party, nor to use such confidential information for any other purpose other than for the execution of this Contract.

- .2 The Contractor is to ensure that their employees are obligated to and will hold confidential information in strict confidence and take all reasonable measure to ensure that confidentially is respected.

**1.6 SITE ASSESSMENT**

- .1 Site Examination
  - .1 Visit the Project Site and surrounding area before submitting a bid.

**1.7 BID SUBMISSION**

- .1 Bid Ineligibility
  - .1 Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain unbalanced prices, arithmetical errors, or irregularities of any kind, may, at the discretion of Owner, be declared informal. If so declared, the bid will be rejected.
  - .2 Bids with Bid Form which is improperly prepared may, at the discretion of Owner, be declared informal. If so declared, the bid will be rejected.
- .2 Submissions
  - .1 Bidders shall be solely responsible for the delivery of their bids in the manner and time prescribed.
  - .2 Submit one copy of the executed offer on the Bid Form provided, signed with original signature(s), and corporate sealed where applicable in a closed opaque envelope, clearly identified with Bidder's name, project name and Owner's name on the outside. The second copy of the Bid Form is provided for Bidder's records.
  - .3 Do not submit Bid Documents with Bid Form.
  - .4 Bids received by fax or email shall be rejected.
- .3 Bid Modifications
  - .1 Written amendments to the submitted offer shall be permitted if received in hard copy at the office where bids are being opened prior to Bid Closing Time, provided that bid amendments are endorsed by the same party or parties who signed and sealed the offer.
  - .2 The onus is on Bidder to ensure timely receipt of bid modifications. Owner makes no assurances regarding availability of fax communication lines or equipment. To be considered, fax transmissions of bid modifications must be received in full prior to Bid Closing Time.
  - .3 An amendment that expressly or by inference discloses Bidder's Total Bid or other material element of the bid, such that in the opinion of Owner the confidentiality of the bid is breached, shall be valid cause for Owner, at their sole discretion, to reject the bid.
  - .4 Amendments submitted via email shall not be permitted.

.4 Bid Withdrawal

- .1 Bidder shall be permitted to withdraw bid without prejudice, provided a request, in writing or by fax, signed by the same person or persons who signed the Bid Form, is received at the office designated in the Bid Documents before Bid Closing Time. Error on the part of Bidder in preparing the bid confers no right to the withdrawal of the bid after it has been opened.

**1.8 BID ENCLOSURES/REQUIREMENTS**

.1 Bid Form Requirements

- .1 Fill in unit prices where indicated in the Schedule of Quantities and Prices of Section 00 41 00 - Bid Form. Extend unit prices in accordance with quantities shown. Insert extensions in spaces provided.
- .2 Quantities shown against items listed in the Schedule of Quantities and Prices are estimates and serve only to provide a basis for comparing bids. Payment in respect of these items will be in accordance with the Contract Documents.
- .3 Fill in prices where indicated on Bid Form.
- .4 In the event of a discrepancy between unit prices and extension, unit prices will govern and Engineer will correct extensions accordingly.
- .5 In the event of a discrepancy between the sum of prices and extensions and Total Bid, prices and extensions will govern and Engineer will correct Total Bid accordingly.
- .6 Include in price(s) bid supply of all materials except those specified to be supplied by others, all supervision, labour and equipment, and a provision for sales taxes, duties, overhead and profit. Total Bid shall represent the entire cost to Owner for the completed works as specified and shown on the drawings, exclusive only of GST and PST payable by Owner.
- .7 The amount of GST and PST payable by Owner on goods and services provided under this Contract is in addition to the Total Bid and is to be shown on a separate line on the Bid Form.
- .8 Bid analysis will be based on the Bid price, exclusive of GST and PST.
- .9 Bidder, in submitting an offer, accepts the time period stated in the Bid Form.

.2 Bid Signing

- .1 The Bid Form shall be executed by Bidder as follows:
  - .1 Sole Proprietorship: signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature.
  - .2 Partnership: signature of all partners in the presence of a witness who will also sign. Insert the word partner under each signature.
  - .3 Limited Company: signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal.
  - .4 Joint Venture: each party of the joint venture shall execute the bid under their respective seals in a manner appropriate to such party as described above, similar to the requirements of a Partnership.

---

**1.9 OFFER ACCEPTANCE/REJECTION**

.1 Duration of Offer

.1 Bids shall remain open to acceptance and shall be irrevocable for a period of sixty (60) days after the bid closing date.

.2 Acceptance of Offer

.1 Owner reserves the right to accept any offer, waive defects in any offer, or reject any or all offers.

.2 After acceptance of an offer by Owner, Engineer, on behalf of Owner, will issue a written Notice of Award to accepted Bidder.

**Part 2 Products**

NOT USED.

**Part 3 Execution**

NOT USED.

**END OF DOCUMENT**

RESORT VILLAGE OF CANDLE LAKE  
WESTSIDE TRAIL IMPROVEMENTS

TO: Resort Village of Candle Lake  
Heather Scott, Administrator  
#20 Hwy 265  
Box 114  
Candle Lake, Sask. S0J 3E0

The undersigned Bidder, having carefully examined the Contract Documents and locality of the proposed work, and having full knowledge of the work required and the materials to be furnished and used, hereby agrees to provide all necessary materials, supervision, labour and equipment and perform and complete all work, and fulfill everything as set forth and in strict accordance with the Contract Documents and Addenda numbered <sup>1</sup> \_\_\_\_\_ for the prices stated in the Schedule of Quantities and Prices.

CONTRACTOR'S NAME AND ADDRESS  
(Please Print)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The undersigned also agrees:

\_\_\_\_\_

<sup>1</sup> To be completed by Bidder.

- 1 that Owner is in no way obligated to accept this bid;
- 2 that Owner may, at Owner's discretion, award to other than the low Bidder;
- 3 that, if the Bid Form is improperly completed or incomplete, Owner shall have the right to disqualify and/or reject this bid;
- 4 that this bid is made without knowledge of the bid prices to be submitted for this work by any other company, firm, or person;
- 5 that this bid is made without any connection or arrangement with any other company, firm, or person submitting a bid for this work;
- 6 that this bid is made without any undisclosed connection or arrangement with any other company, firm, or person having an interest in this bid or in the proposed Contract;
- 7 that this bid is irrevocable for sixty (60) days after the closing date for receipt of bids and that the Owner may, at any time within such period, accept this bid whether any other bid has previously been accepted or not and whether Notice of Award of a contract has been given or not;
- 8 to deposit with Owner the specified insurance endorsement certificates and execute the Contract Agreement.
- 9 to commence and proceed actively with the work promptly following receipt of the Notice to Proceed, and to complete all work under the Contract by **June 1, 2019**, subject to the provisions of the General Conditions for extension of Contract Time;
- 10 to do all extra work not reasonably inferable from the specifications or drawings, but called for in writing by Engineer and to accept as full compensation therefor payment in accordance with the provisions of this contract;
- 11 that estimates of quantities shown in the Bid Form serve only to provide a basis for comparing bids and that no representations have been made by either Owner or Engineer that the actual quantities will even approximately correspond therewith, and further, that Owner has the right to increase or decrease the quantities in any or all items and to eliminate items entirely from the work;
- 12 that payment for the work done will be made on the basis of the quantities measured by Engineer and at the prices shown in the Bid Form which shall be compensation in full for the work done under the terms of the Contract, exclusive of GST and PST payable by Owner.

### SCHEDULE OF QUANTITIES AND PRICES

The following are our prices, exclusive of GST and PST payable by the Owner, for the cost of work for each item as outlined in the respective payment clauses in the Specifications.

Item	Description	Unit	Quantity	Unit Price	Extension
1	Herbicide Chemical	LS	1		
2	Granular Base Course	m3	620		
3	Crushed Fines Aggregate Surfacing	m3	210		
4	Pipe Culverts	m	21		

### BID SUMMARY

BID: (excluding GST and PST)	\$
Goods and Services Tax (5% of Total Base Bid):	\$
Provincial Sales Tax (6% of Total Base Bid):	\$
<b>TOTAL BID: (including GST and PST)</b>	<b>\$</b>

This bid is executed under seal at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Address

**For Individual or Partnership:**

SIGNED, SEALED AND DELIVERED by:

\_\_\_\_\_  
Bidder (please print)

in the presence of:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
City/Province/PC

\_\_\_\_\_  
Occupation

Seal

**For Limited Company or Corporation:**

The Corporate Seal of:

\_\_\_\_\_  
Bidder (please print)

was hereunto affixed in the presence of:

\_\_\_\_\_  
Authorized Signing Officer

Title

Seal

\_\_\_\_\_  
Authorized Signing Officer

Title

**NOTE:** If the bid is by joint venture, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

**END OF DOCUMENT**

**Part 1            General**

**1.1                SUMMARY OF WORK**

- .1    Requirements Included
  - .1    Title of work: Westside Trail Improvements
  - .2    Description of work: The work involves reconstruction of the Westside Trail, which generally includes but is not limited to placement and compaction of granular materials, and installation of small diameter culverts.
  - .3    Contract method: Unit Price.
- .2    Drawings and Specifications Furnished
  - .1    Engineer will provide 3 copies of drawings and specifications to Contractor.
  - .2    Additional copies of drawings and specifications are available upon request at an additional cost.

**1.2                PROJECT COORDINATION**

- .1    Coordinate progress of the Work, progress schedules, submittals, use of site, temporary utilities, construction facilities and controls.

**1.3                HOURS OF WORK**

- .1    Perform Work in conformity with all municipal bylaws with respect to noise control, hours of work, night work and holiday work.
- .2    Obtain written permission of Engineer before undertaking holiday work or night work.

**1.4                RELICS AND ANTIQUITIES**

- .1    Relics and antiquities and items of historical or scientific interest such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found on site or in buildings to be demolished, remain property of Owner. Protect such articles and request directives from Engineer.
- .2    Notify Engineer immediately if evidence of archaeological finds is encountered and await Engineer's written instructions before proceeding with work in area.

**1.5                EXCAVATING AND BACKFILL**

- .1    Approvals
  - .1    Submit written request in advance of work which affects:
    - .1    Existing municipal services.
    - .2    Structural integrity of any element of Project.
    - .3    Work of Owner or separate contractor.
  - .2    Inspection
    - .1    Inspect existing conditions, including elements subject to damage or movement

- .2 After uncovering, inspect conditions affecting performance of work.
- .3 Execution
  - .1 Perform excavating and backfilling, to complete the Work.
  - .2 Remove and replace defective and non-conforming work.
  - .3 Perform Work to avoid damage to other work.
  - .4 Restore work with new products in accordance with Contract Documents.

**1.6 FIELD ENGINEERING**

- .1 Survey Requirements
  - .1 Locate, confirm and protect control points prior to starting site work. Preserve permanent reference points during construction.

**1.7 SUBMITTALS**

- .1 Administrative
  - .1 Submit to Engineer for review the submittals listed in technical specifications. Submit with reasonable promptness and in an orderly sequence so as to not cause delay in Work.
  - .2 Work affected by submittal shall not proceed until review is complete.

**1.8 SCHEDULE**

- .1 Schedules Required
  - .1 Construction Progress Schedule.
- .2 Submission
  - .1 Submit initial schedules within 7 days after award of Contract.
  - .2 Engineer will review schedule and return reviewed copy within 3 days after receipt.

**1.9 QUALITY CONTROL**

- .1 Inspection
  - .1 Owner and Engineer shall have access to Work.
  - .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Engineer instructions, or law of Place of Work.
  - .3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .2 Independent Inspection Agencies
  - .1 Independent Inspection/Testing Agencies may be engaged by Engineer for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Owner.
  - .2 Provide equipment required for executing inspection and testing by appointed agencies.

- .3 Project Cleanliness
  - .1 Maintain the Work in tidy condition, free from accumulation of waste products and debris.
  - .2 Remove waste material and debris from site at end of each working day.

**1.10 BASIC PRODUCT REQUIREMENTS**

- .1 Product and Material Quality
  - .1 Products, materials, equipment and articles (referred to as Products throughout specifications) incorporated in Work shall be new, not damaged or defective, and conforming with specifications for purpose intended. If requested, furnish evidence as to type, source and quality of Products provided.
  - .2 Defective Products, 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.
- .2 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 seals and labels intact.
  - .3 Store products subject to damage from weather in weatherproof enclosures.
- .3 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 Engineer in writing, of conflicts between specifications and manufacturer's instructions, so that Engineer may establish course of action.
  - .3 Improper installation or erection of Products, due to failure in complying with these requirements, authorizes Engineer to require removal and reinstallation at no increase in Contract Amount.
- .4 Workmanship
  - .1 Execute Work by workers experienced and skilled in respective duties for which they are employed. Immediately notify Engineer if required Work is such as to make it impractical to produce required results.
  - .2 Do not employ any unfit person or anyone unskilled in their required duties. Engineer reserves the right to require the dismissal from site of workers deemed incompetent, careless, insubordinate or otherwise objectionable.

**1.11 PROJECT CLOSEOUT**

- .1 Final Cleaning
  - .1 When the Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

- .2 Remove waste materials and debris from site at regularly scheduled times or dispose of as directed by Engineer. Do not burn waste materials on site, unless approved by Engineer.
- .2 Documents
  - .1 Collect reviewed submittals and assemble documents executed by Subcontractors, suppliers, and manufacturers.
  - .2 Submit material prior to final Application for Payment.
  - .3 Submit record drawings.
  - .4 Provide warranties fully executed and notarized.
  - .5 Submit a final statement of accounting giving total adjusted Contract Amount, previous payments, and monies remaining due.
  - .6 Engineer will issue a final change order reflecting approved adjustments to Contract Amount not previously made.
- .3 Inspection/Takeover Procedures
  - .1 Prior to application for Certificate of Total Performance, carefully inspect the Work and ensure it is complete, that all construction deficiencies are complete, defects are corrected and building is clean and in condition for occupancy. Notify Engineer, in writing, of completion of the Work and request an inspection.
  - .2 During Engineer inspection, a list of deficiencies and defects will be tabulated. Correct same.

**Part 2 Products**

Not Used

**Part 3 Execution**

Not Used

**END OF SECTION**

**Part 1 General**

**1.1 DESCRIPTION**

- .1 The work shall consist of supplying, hauling, dumping, spreading and compacting base material on the Westside Trail at locations indicated in the contract drawings. The work shall also consist of preparatory work, which includes supply and application of glyphosate chemical.

**1.2 MEASUREMENT AND PAYMENT**

- .1 Measurement will be measured in cubic metres of granular base hauled.
- .2 Payment for Granular Base Course will be at the contract unit price per cubic metre as specified on the Bid Form. The contract unit price shall be full compensation for all associated work, including but not limited to supply of all material, equipment and labour required for the supply, crushing, processing, handling, hauling, placing, watering, shaping and compaction of the base material specified in the contract documents and as shown on the drawings.
- .3 Payment for application of Herbicide Chemical will be at the lump sum price as specified on the Bid Form. The lump sum price shall be full compensation for all associated work, including but not limited to supply of material, mixing, handling, application, and disposal of all related waste products.

**1.3 SUBMITTALS**

- .1 Submit to Engineer, sieve analysis, Atterberg Limits, percent fractured faces and percent lightweight pieces of materials proposed for use at least one (1) week prior to commencing work.

**Part 2 Products**

**2.1 MATERIALS**

- .1 Herbicide Chemical:
  - .1 Roundup Promax or equivalent
  - .2 Mix consistency to manufacturers recommendation.
- .2 Granular base course materials shall meet the following requirements:
  - .1 Base aggregate shall be composed of sound, hard and durable particles of sand, gravel and rock free from injurious and quantities of elongated soft or flaky particles, shale, loam, clay balls and organic or other deleterious materials.
  - .2 Gradations to be within limits specified when tested to ASTM C136 and ASTM C117.
    - .1 Granular base course gradation to meet the following:

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING CANADIAN METRIC SIEVE SERIES
18.0 mm	100.0
12.5 mm	75.0 – 100.0
5.0 mm	50.0 – 75.0
2.0 mm	32.0 – 52.0
900 um	20.0 – 35.0
400 um	15.0 – 25.0
160 um	8.0 – 15.0
71 um	6.0 – 11.0
Plasticity Index	0-6.0
Fractured Face %	50.0 Minimum
Lightweight Pieces %	5.0 Maximum

- .2 The percentage passing the designated sieve size for any representative sample, when plotted on a semi-log grading chart, shall show a free flowing concave curve without sharp breaks, within the limits specified.
- .3 Liquid limit: to ASTM D4318, maximum 25.
- .4 Plasticity index: to ASTM D4318.
- .5 Crushed particles at least 50% of particles by mass of the material retained on the 5.00 mm sieve to have at least 1 freshly fractured face.

**Part 3 Execution**

**3.1 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver and stockpile, aggregates as noted below.
  - .1 Handle and transport aggregates to avoid segregation, contamination and degradation.
  - .2 No stockpiling of aggregate to be permitted on site.

**3.2 HERBICIDE SPRAY APPLICATION**

- .1 Spray existing organics to width specified in contract drawings.
- .2 Application rate and other conditions to meet requirements specified in manufacturers recommendations on product sheet.

**3.3 GRANULAR BASE PLACEMENT**

- .1 Place granular base after subgrade sprayed and inspected by the Engineer.
- .2 Place granular base mix as shown in contract drawings.
- .3 Construct granular base to depth and grade in areas indicated.
- .4 Ensure no frozen material is placed.
- .5 Place material only on clean unfrozen surface, free from snow and ice.

- .6 Place material using methods which do not lead to segregation or degradation of aggregate.
- .7 Shape each layer to smooth contour and compact to specified density
- .8 Remove and replace material which becomes segregated during spreading.

**3.4 COMPACTION**

- .1 Compaction equipment to be capable of obtaining required base course densities.
- .2 Shape and roll alternately to obtain smooth, even uniformly compacted base course.
- .3 Apply water as necessary during compaction to obtain the specified density. Water will not be paid directly but considered a subsidiary to the contract.
- .4 Correct surface irregularities by loosening and adding or removing material until the surface is within specified tolerance.
- .5 Base mix shall not be compacted if the atmospheric temperature is less than 2°C.
- .6 The section of base course shall be considered acceptable if it has no surface defects and is true to grade and cross-section and if:
  - .1 The average density meets or exceeds 98% maximum dry density in accordance with ASTM D698.
  - .2 The moisture content is less than or equal to the optimum moisture content.
  - .3 Atmospheric temperature is greater than 2°C.
- .7 Any section with surface defects shall be rejected as unacceptable work.

**3.5 PROTECTION**

- .1 Maintain finished base in condition conforming to this Section until succeeding material is applied.

**END OF SECTION**

**Part 1 General**

**1.1 DESCRIPTION**

- .1 The work shall consist of supplying, hauling, dumping, spreading and compacting granular crusher dust surfacing material on the Westside Trail at locations indicated in the contract drawings.

**1.2 MEASUREMENT AND PAYMENT**

- .1 Measurement will be measured in cubic metres of crushed fines material hauled.
- .2 Payment for Crushed Fines Aggregate Surfacing will be at the contract unit price per cubic metre as specified on the Bid Form. The contract unit price shall be full compensation for all associated work, including but not limited to supply of all material, equipment and labour required for the supply, crushing, processing, handling, hauling, placing, watering, shaping and compaction of the base material specified in the contract documents and as shown on the drawings.

**1.3 SUBMITTALS**

- .1 Submit to Engineer, sieve analysis, Atterberg Limits, percent fractured faces and percent lightweight pieces of materials proposed for use at least one (1) week prior to commencing work.

**Part 2 Products**

**2.1 MATERIALS**

- .1 Crushed Fines Aggregate shall meet the following requirements:
  - .1 Composed of sound, hard and durable particles of sand, gravel and rock free from injurious and quantities of elongated soft or flaky particles, shale, loam, clay balls and organic or other deleterious materials.
  - .2 Gradations to be within limits specified when tested to ASTM C136 and ASTM C117 to meet the following:

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING CANADIAN METRIC SIEVE SERIES
5.0 mm	100.0
2.0 mm	63.0 – 73.0
900 um	40.0 – 50.0
160 um	25.0 – 35.0
71 um	8.0 – 14.0

- .1 The percentage passing the designated sieve size for any representative sample, when plotted on a semi-log grading chart, shall show a free flowing concave curve without sharp breaks, within the limits specified.

**Part 3 Execution**

**3.1 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver and stockpile, aggregates as noted below.
  - .1 Handle and transport aggregates to avoid segregation, contamination and degradation.
  - .2 No stockpiling of aggregate to be permitted on site.

**3.2 PLACING**

- .1 Place crushed fines aggregate after granular base course is inspected and approved by the Engineer.
- .2 Place as shown in contract drawings. Construct to depth and grade in areas indicated.
- .3 Ensure no frozen material is placed.
- .4 Place material only on clean unfrozen surface, free from snow and ice.
- .5 Place material using methods which do not lead to segregation or degradation of aggregate.
- .6 Shape to smooth contour and compact to specified density
- .7 Remove and replace material which becomes segregated during spreading.

**3.3 COMPACTION**

- .1 Compaction equipment to be capable of obtaining densities.
- .2 Shape and roll alternately to obtain smooth, even uniformly compacted base course.
- .3 Apply water as necessary during compaction to obtain the specified density. Water will not be paid directly but considered a subsidiary to the contract.
- .4 Correct surface irregularities by loosening and adding or removing material until the surface is within specified tolerance.
- .5 Crushed Fines Aggregate Surfacing shall be considered acceptable if it has no surface defects and is true to grade and cross-section and if:
  - .1 The average density meets or exceeds 98% maximum dry density in accordance with ASTM D698.
- .6 Any section with surface defects shall be rejected as unacceptable work.

**END OF SECTION**

---

**Part 1            General**

**1.1                DESCRIPTION**

- .1            The work shall consist of removing and installing pipe culverts as indicated on the contract drawings.

**1.2                MEASUREMENT AND PAYMENT**

- .1            Installing Pipe Culvert
  - .1            Installation of pipe culverts will be measured in metres in place.
  - .2            Payment for Installing Pipe Culverts will be at the contract unit price per metre. The contract unit price will be full compensation for all associated work including but not limited to supply of culverts, storing, hauling, handling, unloading, preparation of bed, assembling of culvert, and compaction of backfill.
- .2            Removal and Disposal of Culverts
  - .1            Removal and Disposal of Culverts will be considered as subsidiary to the contract. Work shall include, but not limited to removing and dismantling, hauling, disposing of unusable culvert material, and hauling salvageable materials to the Village of Candle Lake storage yard.

**1.3                SUBMITTALS**

- .1            Submit manufacturer's test data and certification at least one (1) week prior to commencing work.

**1.4                DELIVERY, STORAGE AND HANDLING**

- .1            Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .2            Storage and Handling Requirements:
  - .1            Store materials in accordance with manufacturer's recommendations.
  - .2            Store and protect pipes from damage.
  - .3            Replace defective or damaged materials with new.

**Part 2            Products**

**2.1                HIGH DENSITY POLYETHYLENE PIPE**

- .1            High density polyethylene culvert; Armtec Boss 1000 or equivalent.

**2.2                EARTH BEDDING AND BACKFILL**

- .1            Material used for bedding and backfill not to contain more than 3% organic matter by mass, frozen lumps, weeds, sod, roots, logs, stumps or other unsuitable material.

**Part 3 Execution**

**3.1 REMOVAL AND DISPOSAL OF CULVERTS**

- .1 Contractor shall remove culverts as indicated on drawings.
  - .1 All unusable materials to be disposed of by the Contractor off site in an environmentally responsible manner.
  - .2 Salvageable culvert materials to be hauled to the Village of Candle Lake maintenance yard.

**3.2 INSTALLATION OF CULVERTS**

- .1 Bedding
  - .1 Place 200 mm minimum thickness of approved earth material on bottom of excavation and compact to 95% minimum of maximum density to ASTM D698.
  - .2 Place bedding in unfrozen condition.
- .2 Laying Pipe Culverts
  - .1 Begin pipe placing at downstream end.
  - .2 Ensure bottom of pipe is in contact with shaped bed or compacted fill throughout its length.
  - .3 Lay pipe with outside circumferential laps facing upstream.

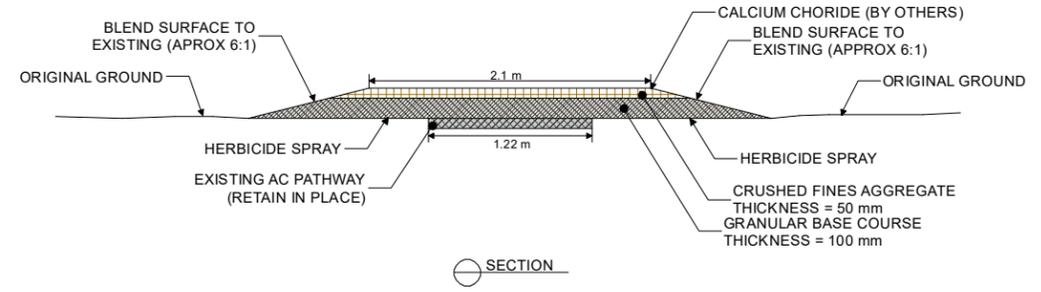
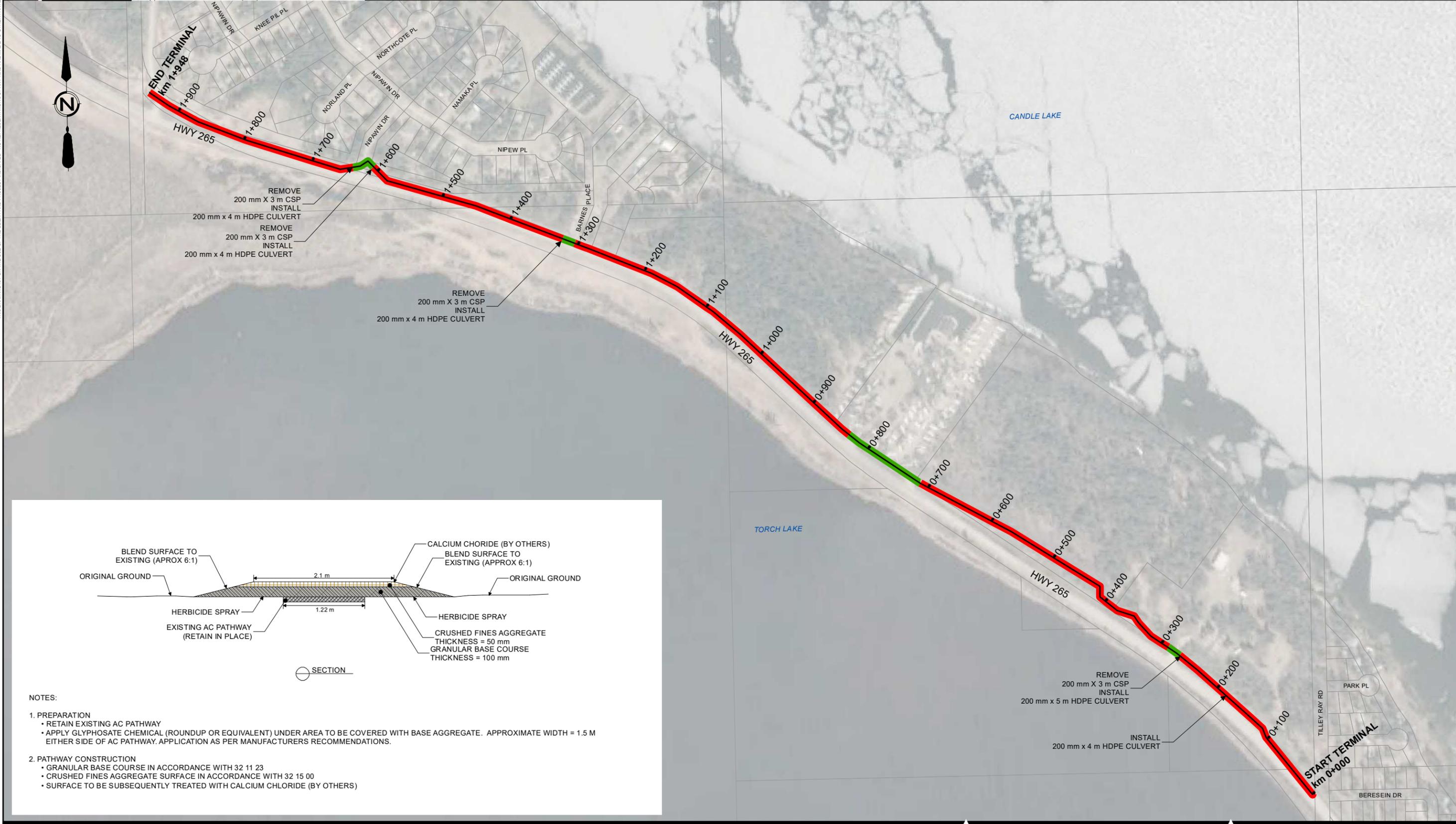
**3.3 BACKFILLING**

- .1 Backfill around and over culverts as directed by the Engineer.
- .2 Place earth backfill material in 150 mm layers to full width, alternately on each side of culvert, so as not to displace it laterally or vertically.
- .3 Compact each layer to 95% maximum density to ASTM D698 taking special care to obtain required density under haunches.
- .4 Place backfill in unfrozen condition.

**END OF SECTION**

THIS DRAWING IS FOR THE USE OF THE CLIENT AND PROJECT INDICATED. NO REPRESENTATIONS OF ANY KIND ARE MADE TO OTHER PARTIES.

IF NOT 25 mm ADJUST SCALES  
25 mm  
SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE



- NOTES:**
- 1. PREPARATION**
    - RETAIN EXISTING AC PATHWAY
    - APPLY GLYPHOSATE CHEMICAL (ROUNDUP OR EQUIVALENT) UNDER AREA TO BE COVERED WITH BASE AGGREGATE. APPROXIMATE WIDTH = 1.5 M EITHER SIDE OF AC PATHWAY. APPLICATION AS PER MANUFACTURERS RECOMMENDATIONS.
  - 2. PATHWAY CONSTRUCTION**
    - GRANULAR BASE COURSE IN ACCORDANCE WITH 32 11 23
    - CRUSHED FINES AGGREGATE SURFACE IN ACCORDANCE WITH 32 15 00
    - SURFACE TO BE SUBSEQUENTLY TREATED WITH CALCIUM CHLORIDE (BY OTHERS)

S:\0 - GIS\For Random\For Matt\CandleLake\Walking path\TrailUpgrades.mxd  
DATE: 10/24/2018



PROJECT LOCATION	<span style="color: red;">█</span>
EXISTING ROADWAY AREAS	<span style="color: green;">█</span>
NO WORK REQUIRED (140 m TOTAL)	<span style="color: grey;">█</span>

<b>AE PROJECT No.</b>	2015-4649
<b>SCALE</b>	1:5,000
<b>COORD. SYSTEM</b>	NAD 1983 UTM ZONE 13N
<b>DATE</b>	2018 OCTOBER
<b>REV</b>	
<b>DESCRIPTION</b>	ISSUED FOR TENDER

**WEST SIDE TRAIL UPGRADES**  
VILLAGE OF CANDLE LAKE  
GENERAL ENGINEERING SERVICES