Public Works and Government Services Canada

Requisition No. EZ899-140463/A

MERX I.D. No. _____

SPECIFICATIONS

For

Km 396 – Km 413.5 Pavement Micro Surfacing, Alaska Highway, BC

Project No. R.017174.018 May 2013

APPROVED BY:

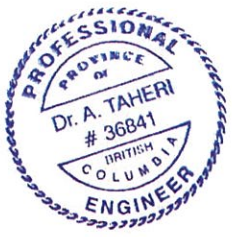
Alaska Hwy Program Manager, EASS — Date: May 29 2013

Construction Safety Coordinator — Date: 2013.05.29

TENDER:

Project Manager — Date: May_29_2013

Real Property Services Branch, Professional and Technical Services, Pacific Region
#219 - 800 Burrard Street, Vancouver, B.C. V6Z 0B9



PART 1 - GENERAL

1.0 Description of Work

.1 Work under this Contract covers supplying traffic control, placing a single application of Micro Surfacing, and applying pavement markings. The work will be carried out on the Alaska Highway in British Columbia. The Micro Surfacing shall comprise a total length of approximately 17.5 kms.

.2 The work consists of the following:

- .1 Supply traffic control signs, traffic control personnel, and pilot vehicle.
- .2 Supply and stockpile blotting sand at km 445.3 prior to the Micro Surfacing operation.
- .3 Supply and stockpile aggregate at km 445.3.
- .4 Supply and storage of polymer modified emulsified asphalt cement at km 445.3.
- .5 Supply, apply, and roll, where necessary, Micro Surfacing.

2.0 Location of Work

.1 Work is located between km 396 and km 413.5, Alaska Highway, B.C. Fort Nelson, B.C. is located at km 455.

.2 Drawing R.017174.018-001 shows line diagram and limits of work.

3.0 Work Schedule

.1 Provide to the Departmental Representative in writing and within 5 working days after Contract award, a detailed construction schedule and traffic plan. The schedule shall show proposed work to be undertaken and anticipated completion dates for each category of work in the Unit Price Table.

.2 After receiving the Contractor's plan and prior to start of construction, a meeting involving Contractor and Departmental Representative will be held at a place and time to be determined by the Departmental Representative. This meeting will review implications of contract, design, schedule of work, methods of construction, environmental protection methods and traffic control.

.3 Complete all stockpiling of aggregate to the storage areas prior to commencing the Micro Surfacing operation.

.4 Submit Contract Schedule within 7 days of contract amendment. Indicate anticipated program stages within date of completion

shown in tender documents.

3.0	Work Schedule-(Cont'd)	.5	Complete all work by August 31, 2013.
		.6	Interim reviews of work progress based on work schedule will be conducted as decided by Departmental Representative and schedule updated by Contractor in conjunction with and to approval of Departmental Representative.
		.7	No work will begin until the pre-construction meeting is held.
		.8	Following the pre-construction meeting and approval of the design, construction and traffic control plan, the work will be so scheduled to meet the time restraints and have the project completed on time.
4.0	Layout of Work	.1	Departmental Representative will indicate areas of work.
		.2	Contractor will provide offset centerline.
		.3	Contractor will reference passing barriers.
		.4	Contractor to layout all other work on ground to satisfaction of Departmental Representative.
		.5	No separate payment for layout of work.
5.0	Maintenance of Work During Construction	.1	Maintain work during construction. Undertake continuous and effective maintenance work day by day, with adequate equipment and forces so that the roadway or structures are continuously kept in a condition satisfactory to Departmental Representative.
6.	Highway Regulation	.1	Observe and obey all regulations concerning hauling and traffic.
		.2	Restrict hauling equipment to legal loads.
7.	Traffic Accommodation	.1	Regulate traffic as specified in Section HC 01592
8.	Asphalt & Aggregate Supply and Delivery	.1	Supply cationic polymer modified emulsified asphalt and aggregate as specified in Section 31 05 18.
		.2	Provide all storage for emulsified asphalt as required.
		.3	Store materials in pit at km 445.3.
9.	Cutting & Patching	.1	Cut and patch as required to make work fit.
		.2	Where new work connects with existing and where existing work is altered, cut, patch and make good to match existing work.
10.	Aggregates	.1	Leave any unused aggregates in neat compact stockpiles as directed.

11.	Standard Test Procedures	.1	Contractor is advised that all referenced standard tests in these specifications refer to revisions current at time of tendering.
12.	Requirements of Regulatory Agencies	.1	Federal, Provincial & Municipal laws and regulations apply to all work under this contract.
13.	Rental Equipment	.1	Make equipment available for additional work in connection with this contract. Rental rates will be in accordance with current Government of British Columbia Rental Rate Schedule. 10% Northern Allowance as referred to in the schedule will apply. Rates will be all inclusive and fully operated. Hourly rental of equipment will be measured n actual working time and necessary traveling time within project limits. Transportation to and from site to be reimbursed only if equipment is used exclusively for additional work. No separate payment for operators' board and room.
		.2	These rates do not establish allowance for plant under Article GC 6.4.1 of General Conditions "C".

END OF SECTION

PART 1 - GENERAL

1.1	Section Includes	.1	Mobilization and Demobilization
1.2	Related Sections	.1	Construction Facilities – Section 01 52 00
1.3	Description	.1	Consists of preparatory work and operations including, but not limited to, those necessary for the movement of personnel, equipment, camp, buildings, shops, offices, supplies and incidentals to and from the project site.
1.4	Measurement Procedures	.1	50 percent of Lump Sum Contract Price for Mobilization and Demobilization, not to exceed 5 percent of the Contract Value, to be paid when mobilization to site is complete.
		.2	Remainder of Lump Sum Contract Price for Mobilization and Demobilization to be paid when work is complete and all materials, equipment, camp, buildings, shops, offices, and other facilities have been removed from site and site cleaned and left in condition to the satisfaction of the Departmental Representative and all other agencies having jurisdiction.

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 Section Includes

.1 Coordination of work with other contractors and work by Departmental Representative under administration of contract.

.2 Startup and progress meeting schedules, submittals and close-out procedures.

1.2 Related Sections

.1 Section 01 11 00 – Summary of Work.

.2 Section 01 33 00 – Submittal Procedures

1.3 Coordination

.1 Coordinate progress schedules, submittals, use of site, temporary utilities, construction facilities, and construction work, with progress of work of other contractors and work by Owner, under instructions of Departmental Representative.

1.4 Construction Organization and Start-up

.1 Within 15 days after award of contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.

.2 Senior representatives of the Owner, PWGSC, Consultant, Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.

.3 Establish time and location of meeting and notify parties concerned minimum five days before meeting.

.4 Incorporate mutually agreed variations to contract documents into agreement, prior to signing.

.5 Agenda to include following:

.1 Appointment of official representative of participants in Work.

.2 Schedule of work, progress scheduling in accordance with Section 01 32 18 – Construction Progress Schedule.

.3 Schedule of submission of shop drawing, samples, colour chips in accordance with Section 01 33 00 – Submittal Procedures.

.4 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with Section 01 52 00 – Construction Facilities.

.5 Delivery schedule of specified equipment in accordance with Section 01 32 18 – Construction Progress Schedules.

.6 Site security in accordance with Section 01 52 00 – Construction Facilities.

1.4 Construction Organization and Start-up (Cont'd)

.7 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, and administrative requirements (GC).

.8 Departmental Representative furnished materials.

.9 Take-over procedures, acceptance, and warranties in accordance with Section 01 77 00 – Closeout Procedures.

.10 Monthly progress claims, administrative procedures, photographs, and holdbacks (GC)

.11 Insurances and transcript of policies (GC)

.6 Comply with Department Representative's allocation of mobilization areas of site; for field offices and sheds, access, traffic, and parking facilities.

.7 During construction, coordinate use of site and facilities through Departmental Representative's procedures for intra-project communications: Submittals, reports and records, schedules, coordination of drawings, recommendations, and resolution of ambiguities and conflicts.

.8 Comply with instructions of Departmental Representative for use of temporary utilities and construction facilities.

.9 Coordinate field engineering and layout work with Departmental Representative.

1.5 Project Meetings

.1 Schedule and administer weekly project meetings throughout progress of work as determined by Departmental Representative.

.2 Prepare agenda for meetings.

.3 Distribute written notice of each meeting four days in advance of meeting date to Departmental Representative.

.4 Provide physical space and make arrangements for meetings.

.5 Preside at meetings.

.6 Record minutes. Include significant proceedings and decisions. Identify action by parties.

.7 Reproduce and distribute copies of minutes within three days after each meeting and transmit to meeting participants, affected parties not in attendance and Departmental Representative.

1.6 On-Site Documents

.1 Maintain at job site, one copy each of the following:

.1 Contract drawings.

.2 Specifications.

.3 Addenda.

1.6 On-Site Documents Cont'd

.4 Reviewed shop drawings.
.5 Change orders.
.6 Other modifications to contract.
.7 Field test reports.
.8 Copy of approved work schedule.
.9 Section 01 35 33 – Health and Safety
.10 Manufacturers' installation and application instructions.
.11 Labour conditions and wage schedules.

1.7 Schedules

.1 Submit preliminary construction progress schedule in accordance with Sections 01 32 18 – Construction Progress Schedule.

.2 After review, revise and resubmit schedule to comply with revised project schedule.

.3 During progress of work, revise and resubmit as directed by Departmental Representative.

1.8 Construction Progress Meetings

.1 During course of work and weeks prior to project completion, schedule progress meeting monthly.

.2 Contractor, major subcontractors involved in work and Departmental Representative are to be in attendance.

.3 Notify parties minimum three days prior to meetings.

.4 Record minutes of meetings and circulate to attending parties and affected parties not in attendance within three days after meeting.

.5 Agenda to include 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 affect on construction schedule and on completion date.

1.8	Construction Progress Meetings (Cont'd)	.12	Health and Safety
		.13	Other business.
1.9	Submittals	.1	Make submittal to Department Representative for review.
		.2	Submit preliminary shop drawings, product data and samples in accordance with Section 01 33 00 – Submittal Procedures, for review for compliance with contract documents; for field dimensions and clearances, for relation to available space, and for relation to work of other contracts. After review, revise and resubmit for transmittal to Departmental Representative.
		.3	Submit requests for payment for review, and for transmittal to Departmental Representative.
		.4	Submit requests for interpretation of contract documents, and obtain instructions through Departmental Representative.
		.5	Process substitutions through Departmental Representative.
		.6	Process change orders through Departmental Representative.
		.7	Deliver closeout submittals for review and preliminary inspections, for transmittal to Departmental Representative.
		.8	Section 01 35 33 – Health and Safety
1.10	Coordination Drawings	.1	Provide information required by Departmental Representative for preparation of coordination drawings.
		.2	Review and approve revised drawings for submittal to Departmental Representative.
1.11	Closeout Procedures	.1	Notify Departmental Representative when work is considered ready for Substantial Performance.
		.2	Accompany Departmental Representative on preliminary inspection to determine items listed for completion or correction.
		.3	Comply with Departmental Representative's instructions for correction of items of work listed in executed certificate of Substantial Performance and for access to Owner-occupied areas.
		.4	Notify Departmental Representative of instructions for completion of items of work determined in Departmental Representative's Final inspection.

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 Precedence

.1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.2 Measurement Procedures

.1 Cost of providing construction Progress Schedules will be considered incidental to the work and no additional payment will be made.

1.3 Definitions

.1 Activity: An element of work performed during course of Project. An activity normally has an expected duration, expected cost and expected resource requirements. Activities can be subdivided into tasks.

.2 Bar Chart (GANTT): A graphic display of schedule-related information. In typical bar chard, 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 Sunday, inclusive, will provide five day work week and define schedule calendar working days as part of Bar Chart (GANTT) submission.

.5 Duration: Number of work periods (not including holidays or other nonworking periods) required to complete an activity or other Project element. Usually expressed as workdays or workweeks.

.6 Master Plan: A summary-level schedule that identifies major activities and key milestones.

.7 Milestone: A significant event in Project, usually completion of major deliverable.

.8 Project Schedule: The planned dates for performing activities and the planned dates for meeting milestones. A dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. 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 Departmental Representative to enable monitoring of project work in relation to established milestones.

1.4 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 20 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.

1.5 Submittals

.1 Submit to Departmental Representative within 10 working days of Award of contract Bar Chart (GANTT) as Master Plan for planning, monitoring and reporting of project progress.

.2 Submit Project Schedule to Departmental Representative within 10 working days of receipt of acceptance of Master Plan.

1.6 Master Plan

.1 Structure schedule to allow orderly planning, organizing and execution of work as Bar Chart (GANTT).

.2 Departmental Representative will review and return revised schedules within 5 working days.

.3 Revise impractical schedule and resubmit within 5 working days.

.4 Accepted revised schedule will become Master Plan and be used as baseline for updates.

1.7 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 Permits.
- .3 Submission of:
  - .1 Environmental Protection Plan.
  - .2 Campsite Plan.
  - .3 Traffic Management Plan.
  - .4 Shop drawings, samples.
- .4 Mobilization.

.5 Micro surfacing.

1.8 Project Schedule Reporting

.1 Update Project Schedule on 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.

1.9 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.

.2 Weather related delays with their remedial measures will be discussed and negotiated.

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 Section Includes

.1 Shop drawings and product data.

.2 Certificates and transcripts.

.3 Required Contractor Submittals.

.1 Pre-mobilization Submittals.

.1 Schedule.
.2 Contractor Chain of Command.
.3 Work Plan.
.4 Quality Control Plan.
.5 Traffic Management Plan.
.6 Construction Access Plan.
.7 Environmental Protection Plan (EPP).
.8 Campsite Plan.
.9 Health and Safety Plan

.2 Construction Phase Submittals.

.1 Monthly Progress Reports.
.2 Quality Control Inspection Reports.
.3 Progress Photographs.

.3 Project Completion Submittals.

.1 Record Drawings.
.2 Quality Control Records.

1.2 Precedence

.1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections on other Divisions of the Project Manual.

1.3 Related Sections

.1 Section 01 32 18 – Construction Progress Schedules.

.2 Section 01 35 33 – Health and Safety Requirements.

.3 Section 01 35 43 – Environmental Procedures.

1.4 Administrative

.1 Submit to Departmental Representative, submittals listed for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in work. Failure to submit in

ample time is not considered sufficient reason for an extension of contract time and no claim for extension by reason of such default will be allowed.

1.4 Administrative (Cont'd)

.2 Work affected by submittal shall not proceed until review is complete.

.3 Present shop drawings, product date, samples and mock-ups in SI metric units.

.4 Where items or information is not produced in SI Metric units, converted values are acceptable.

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

.6 Notify Departmental Representative, 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 area coordinated.

.8 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.

.9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.

.10 Keep one reviewed copy of each submission on site.

1.5 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 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplies and installed. Indicate cross references to design drawings and specifications.

.3 Allow 10 days for Departmental Representative's review of each

submission.

1.5 Shop Drawings and Product Data Con't.

.4 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of work, state such in writing to Departmental Representative prior to proceeding with work.

.5 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of any revisions other than those requested.

.6 Accompany submissions with transmittal letter containing:

- .1 Date.
- .2 Project title and number.
- .3 Contractor's name and address
- .4 Identification and quantity of each shop drawing, product data and sample.
- .5 Other pertinent data.

.7 Submissions shall include:

- .1 Date and revision dates.
- .2 Project title and number.
- .3 Name and address of:
  - .1 Subcontractor.
  - .2 Supplier
  - .3 Manufacturer.
- .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
- .5 Details of appropriate portions of work as applicable:
  - .1 Fabrication.
  - .2 Performance characteristics.
  - .3 Standards.

.8 After Departmental Representative's review, distribute copies.

.9 Submit six prints and one electronic copy of shop drawings for each requirement requested in specification Sections and as consultant may reasonably request.

.10 Submit six hard copies and one electronic copy of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawing will not be prepared due to standardized

manufacture of product.

1.5 Shop Drawings and Product Data (Cont'd)

.11 Delete information not applicable to project.

.12 Supplement standard information to provide details applicable to project.

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

.14 The review of shop drawings by Public Works & Government Services Canada (PWGSC) is for the sole purpose of ascertaining conformance with general concept. This review shall not mean that PWGSC approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting all requirements of construction and Contract Documents. Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for coordination of work of all sub-trades.

1.6 Certificates and Transcripts

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

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

1.7 Required Contractor Submittals

.1 General

.1 This Clause identifies the plans, programs, and documentation required prior to mobilization on site and during the construction phase.

.2 Pre-Mobilization Submittals

.1 Submittal Schedule and Acceptance

.1 Submit the following plans and programs to the Engineer for review a minimum of 10 days prior to mobilization to the project site. The Contractor shall not begin any sit work until the Departmental Representative has authorized acceptance of the submittals in writing. The Contractor shall not construe the Departmental Representative's

authorization of the submittals to imply approval of any particular method or sequence for conducting the work, or for addressing health and safety concerns. Authorization of the programs shall not relieve the Contractor from the responsibility to conduct the work in strict accordance with the requirements of Federal or Provincial regulations, this specification, or to adequately protect the health and safety of all workers involved in the project and any members of the public who may be affected by the project. The Contractor shall remain solely responsible for the adequacy and completeness of the programs and work practices, and adherence to them:

1.7 Required Contractor Submittals (Cont'd)

.1 Project Schedule, detailing the schedule of the workdays and manpower required to complete each phase of the project (e.g., mobilization, construction sequencing, excavation, steel erection, backfilling, roadway reconstruction and demobilization).

.2 Contractor Chain of Command, listing key Contractor personnel, including names and positions, addresses, telephone, cellular telephone and/or pager numbers. The list shall include the names and telephone/cellular telephone/pager numbers for contact persons who are available on a 24-hour basis in the event of emergencies.

.3 Work Plan, describing the Contractor's intended methods of construction including, but not limited to, the environmental mitigation strategies and projected number of personnel on site.

.4 Construction Access Plan, which shall include, but not be limited to, engineering drawings and procedures for accessing all areas of the work.

.5 Environmental Protection Plans (EPP), which shall meet the requirements of Section 01 35 43 – Environmental Procedures.

.6 Camp Site Plan, showing the layout of fences, parking areas and buildings, and describing the facilities for food and waste storage in accordance with Section 01 35 43 – Environmental Procedures. The maximum area of the campsite shall be 50 m by 50 m.

.7 Occupational Health and Safety Program – The Contractor shall have a Certificate of Recognition (COR) or Registered Safety Plan (RSP) including

a site specific Health and Safety Plan acceptable to the Departmental Representative. The contractor shall implement and maintain the Health and Safety Plan during the work.

1.7 Required Contractor Submittals (Cont'd)

.3 Construction Phase Submittals

.1 Monthly Progress Reports in accordance with Section 01 32 18 – Construction Progress Schedules – Bar Chart (GANTT).

.2 Quality Control Inspection Reports – The Contractor shall maintain a daily inspection report that itemizes the results of al Quality Control inspections conducted by the Contractor. The reports shall be made available for review by the Engineer upon request. A summary of all Quality Control inspections conducted to date shall be submitted by the Contractor with each request for payment.

.3 Shop Drawings – The Contractor shall submit all shop drawings required to fabricate and conduct the work a minimum 30 days prior to fabrication.

.4 Progress Photographs:

.1 Formats:

.1 Prints 200 x 300 mm, colour, glossy, complete with binding edge or in three hole plastic sleeves.

.2 Electronic: jpg files, minimum three mega pixels.

.2 Submission requirements: three sets prints and one set of electronic files.

.3 Identification: typewritten name and number of project, description of photography and date of exposure on 25 x 50 mm white patch in upper right hand corner.

.4 Viewpoints: viewpoints determined by Construction Manager or Engineer.

.5 Submission Frequency: prior to commencement of work and monthly thereafter with progress statement, or as directed by construction Manager or Departmental Representative.

.6 Submit all negatives of all photographs before final acceptance. Submit CD with all electronic pictures as part of closeout package.

.7 Insert negatives in envelopes and identify with name and number of project.

.8 Indicate exposure dates and viewpoints of each frame of 35 mm film strips.

1.7 Required Contractor Submittals (Cont'd)

.9 Weekly traffic control reports detailing any traffic accidents, near misses, disruption to traffic or observed abnormal traffic patterns.

.4 Project Completion Submittals

.1 Record Drawings – The Contractor shall submit copies of all Contractor's Drawings revised as necessary to record all as-built changes to the work and the Contractor shall submit a set of Contract Drawings clearly marked to record as-built changes to the work.

.2 Quality Control Records – The Contractor shall submit a bound and itemized set of project quality control.

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 Description

.1 This section specifies requirements for traffic control on work site.

1.2 Reference Standard

.1 Do traffic regulations in accordance with Traffic Control manual for Work on Roadways, distributed by Province of British Columbia, Ministry of Transportation and Highways. Ensure that current copy of manual is available on site at all times.

.2 Nothing in this section limits the Contractor's responsibility to safely accommodate traffic through unique or varied construction situations.

1.3 Requirements of Regulatory Agencies

.1 Comply with requirements of Acts, Regulations and By-Laws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out work or haul materials or equipment.

1.4 Measurement of Payment

.1 Measurement for payment will be included in the contract amount and no separate payment for Traffic Control will be issued.

PART 2 - PRODUCTS

2.1 Information and Warning Devices

.1 Supply new signs, delineators, barricades, traffic cones and miscellaneous warning devices as specified in Traffic Control Manual for Work on Roadways.

.2 Supply all signs except those shown on plan as supplied by others.

2.2 Traffic Markers

.1 Have minimum of 100 Type D traffic markers and all necessary traffic signs on site and in place before interfering with traffic.

PART 3 – EXECUTION

3.1 Protection of Public Traffic

.1 When working on traveling way:

- .1 Place equipment in position to present minimum of interference and hazard to traveling public.
- .2 Keep equipment units as close together as working conditions will permit and preferably on same side.
- .3 Do not leave equipment on traveled way overnight.

3.1 Protection of Public Traffic (Cont'd)

.2 Do not close any lanes of road or highway without approval of Departmental Representative. Before rerouting traffic, erect suitable signs and devices in accordance with instructions contained in Traffic Control Manual for Work on Roadways.

.3 .1 Provide minimum 7 m wide roadway exclusively for traffic in two-way sections through work and on detours. Widen roadway as necessary in curves to provide room for transport trucks to meet safely.

.2 Provide minimum 5 m wide roadway exclusively for traffic in one-way sections through work and on detours.

.4 Provide well graded detours or temporary roads to facilitate passage of traffic around restricted construction area. Provide and maintain signs and maintain roadway.

.5 Provide and maintain reasonable road access and egress to property fronting along or in vicinity of work under contract unless other reasonable means of road access exist.

3.2 Information and Warning Devices

.1 Erect and maintain sign and other devices required to indicate construction activities and other temporary and unusual conditions resulting from project work which may require road user response as specified in Traffic Control Manual for Work on Roadways.

.2 Continually maintain traffic 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 existing conditions.

3.3 Traffic Control Persons

.1 Provide traffic control persons who have been instructed in, and have demonstrated adequate knowledge of WCB Regulations, and the relevant procedures from the Traffic Control manual.

.2 Employers of traffic control persons must train and instruct those workers in a course acceptable to the board which covers:

.1 Environmental factors such as heat, cold and sun.

.2 Personal protective clothing and safety equipment

.3 Communication with traveling public.

.4 Working around heavy equipment.

.5 Setting up traffic control devices at a work site.

.6 Applicable requirements of the Transportation of Dangerous Goods Act, 1992 (Canada) and the regulations made under it.

3.3 Traffic Control Persons (Cont'd)

.7 Proper positioning of traffic control persons.

.8 Proper hand signals.

.3 Provide traffic control persons in the following situations:

.1 At each end of restricted sections where pilot vehicles are required.

.2 Where traffic is required to pass working vehicles or equipment which may block all or part of roadway.

.3 Where construction equipment is crossing roadway.

.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 available.

.6 In situations where complete protection for personnel, working equipment and public traffic is not provided by other traffic control devices.

3.4 Pilot Vehicles

.1 Provide pilot vehicles where it is necessary to institute one-way traffic (except for short distances in good visibility), where driving lanes are not well defined or where access through the work would be otherwise dangerous. Equip pilot vehicles with orange flashing lights and signs clearly designating vehicle as a pilot vehicle.

.2 Do not delay traffic more than necessary and in no case longer than 15 minutes.

3.5 Approval

.1 Do not change traffic control operation without Departmental Representatives approval.

END OF SECTION

PART 1 - GENERAL

1.1 Related Sections

.1 All Sections.

1.2 References

.1 Government of Canada

.1 Canada Labour Code, Part II

.2 Canada Occupational Health and Safety Regulation.

.2 Province of British Columbia

.1 Worker's Compensation Act Part 3, Occupational Health and Safety.

.2 Occupational Health and Safety Regulation.

1.3 Workers' Compensation Coverage

.1 Comply fully with the Workers' Compensation Act, regulations and orders pursuant thereto, and any amendments up to the completion of the work.

.2 Maintain Workers' Compensation Board coverage during term of the contract, until and including the date that the Final Certificate of Completion is issued.

1.4 Compliance With Regulations

.1 PWGSC may terminate the contract without liability to PWGSC where the Contractor, in the opinion of PWGSC, refuses to comply with a requirement of the Workers' Compensation Act or the Occupational Health and Safety Regulations.

.2 It is the Contractor's responsibility to ensure that all workers are qualified, competent and certified to perform the work as required by the Workers' Compensation Act or the Occupational Health and Safety Regulations.

1.5 Submittals

.1 Submit the following:

.1 Copies of reports or directions issued by Federal, Provincial, Territorial Health and Safety inspectors.

.2 Copies of incident and accident reports.

.3 Complete set of Material Safety Data Sheets (MSDS), and all other documentation required by Workplace Hazardous Materials Information System (WHMIS) requirements.

.4 Emergency Procedures.

.5 Health and Safety Plan

1.5 Submittals (Cont'd)

.2 The Departmental Representative will review the Contractor's site-specific project Health and Safety Plan and emergency procedures and provide comments to the Contractor within two days after receipt of the plan. Revise the plan as appropriate and resubmit to Departmental Representative.

.3 Medical surveillance: where prescribed by legislation, regulation, or safety program, submit certification of medical surveillance for site personnel prior to commencement of work and submit additional certifications for any new site personnel to Departmental Representative.

.4 Submission of the Health and Safety Plan and any revised version, to the Departmental Representative, is for information and reference purposes only. It shall not:

.1 Be construed to imply approval of the Departmental Representative.

.2 Be interpreted as a warranty of being complete, accurate and legislatively compliant.

.3 Relieve the Contractor of his legal obligations for the provision of health and safety on the project.

1.6 Responsibility

.1 The Contractor shall be responsible for:

.1 Assume responsibility as the Prime Contractor or work under this contract.

.2 The safety of persons and property on site.

.3 The protection of persons off site and the environment to the extent that they may be affected by the conduct of the work.

.4 Comply with and enforce compliance by employees with safety requirements of Contract documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan

1.7 General

.1 Provide safety barricades and lights around work site as required to provide a safe working environment for workers and protection for pedestrian and vehicular traffic.

.2 Ensure that non-authorized persons are not allowed to circulate in designated construction areas of the work site.

.1 Provide appropriate means by use of barricades, fences,

warning signs, traffic control personnel and temporary lighting as required.

1.7 General- (Cont'd)

.2 Secure site at nighttime as deemed necessary to protect site against entry.

1.8 Regulatory Requirements

.1 Comply with specified codes, acts, bylaws, standards and regulations to ensure safe operations at site.

.2 In the event of conflict between any provision of the above authorities, the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, the Departmental Representative will advise on the course of action to be followed.

1.9 Filing of Notice

.1 The Contractor is to complete and submit an Advance Notice of Project as required by British Columbia Worker's Compensation Branch.

.2 Provide copies of all notices to the Departmental representative

1.10 Health and Safety Plan

.1 Conduct a site-specific hazard assessment based on review of Contract Documents, required work and project site. Identify any known and potential health risks and safety hazards.

.2 Prepare and comply with a site-specific project Health and Safety Plan based on hazard assessment, including, but not limited to, the following:

.1 Primary requirements:

.1 Contractor's Safety Policy.

.2 Identification of applicable compliance obligations.

.3 Definition of responsibilities for project/organization chart for project.

.4 General safety rules for project.

.5 Job-specific safe work procedures.

.6 Inspection policy and procedures.

.7 Incident reporting and investigation policy and procedures.

.8 Occupational Health and Safety Committee/Representative procedures.

.9 Occupational Health and Safety meetings.

.10 Occupational Health and Safety communications and record keeping procedures.

.2 Summary of health risks and safety hazards resulting from analysis of hazard assessment, with respect to site tasks and operations which must be performed as part of the work.

1.10 Health and Safety Plan (Cont'd)

.3 List hazardous materials to be brought on site as required by the work.

.4 Indicate engineering and administrative control measures to be implemented at the site for managing identified risks and hazards.

.5 Identify personal protective equipment (PPE) to be used by workers.

.6 Identify personnel and alternates responsible for site safety and health.

.7 Identify personnel training requirements and training plan, including site orientation for new workers.

.3 Develop the plan in collaboration with all subcontractors. Ensure that work/activities of subcontractors are included in the hazard assessment and are reflected in the plan.

.4 Revise and update Health and Safety Plan as required and resubmit to Departmental Representative.

.5 The review of Health and Safety Plan by Public Works & Government Services Canada (PWGSC) shall not relieve the Contractor of responsibility for errors or omissions in final Health and Safety Plan or of responsibility for meeting all requirements of construction and Contract Documents.

1.11 Emergency Procedures

.1 List standard operating procedures and measures to be taken in emergency situations. Include an evacuation plan and emergency contact (i.e. Names/telephone numbers) of:

.1 Designated personnel from own company.

.2 Regulatory agencies applicable to work and as per legislated regulation.

.3 Local emergency resources.

.4 Departmental Representative (site staff).

.2 Include the following provisions in the emergency procedures:

.1 Notify workers and first aid attendant of the nature and location of the emergency.

.2 Evacuate all workers safely.

.3 Check and confirm the safe evacuation of all workers.

.4 Notify the fire department or other emergency responders.

.5 Notify adjacent workplaces or residences which may be affected if the risk extends beyond the workplace.

.6 Notify Departmental Representative.

.3 Provide written rescue/evacuation procedures as required for but not limited to:

1.11 Emergency Procedures (Cont'd)

.1 Work at high angles.

.2 Work in confined spaces or where there is a risk of entrapment.

.3 Work with hazardous substances.

.4 Underground work.

.5 Work on, over, under and adjacent to water.

.6 Workplaces where there are persons who requires physical assistance to be moved.

.4 Revise and update Emergency Procedures as required and re-submit to the Departmental Representative.

1.12 Health and Safety Coordinator

.1 Employ and assign to work, competent and authorized representative as Health and Safety Coordinator. Health and Safety Coordinator must:

.1 Have minimum 2 years' site-related working experience specific to activities associated with Construction.

.2 Have working knowledge of occupational safety and health regulations.

.3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform work.

.4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.

.5 Be on site during execution of work and report directly to and be under direction of site supervisor.

1.13 Hazardous Products

.1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials and regarding labeling and provision of Material Safety Data Sheets (MSDS) acceptable to the Departmental Representative and in accordance with the Canada Labour Code.

.2 Where use of hazardous or toxic waste cannot be avoided:

.1 Advise Departmental Representative beforehand of the products intended for use. Submit applicable MSDS and WHMIS documents.

.3 Comply with section 02 61 33

1.14 Unforeseen Hazards

.1 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of work,

immediately stop work and advise Departmental Representative verbally and in writing.

1.15 Posted Documents

.1 Post legible versions of the following documents on site:

- .1 Health and Safety Plan.
- .2 Sequence of Work.
- .3 Emergency Procedures.
- .4 Site drawing showing project layout, locations of first-aid station, evacuation route and marshaling station and the emergency transportation provisions.
- .5 Notice of Project.
- .6 Floor Plans.
- .7 Notice as to where copy of the Workers' Compensation Act and Regulations are available on the work site for review by employees and workers.
- .8 Workplace Hazardous Information System (WHMIS) documents.
- .9 Material Safety Data Sheets (MSDS).
- .10 List of names of joint Health and Safety Committee members of Health and Safety Representative as applicable.

.2 Post all Material Safety Data Sheets (MSDS) on site, in a common area, visible to all workers and in locations accessible to tenants when work of the contract includes construction activities adjacent to occupied areas.

.3 Postings and Insert Postings should be approved by Departmental Representative.

1.16 Meetings

.1 Attend health and safety pre-construction meeting and all subsequent meetings called by the Departmental Representative.

1.17 Correction of Noncompliance

.1 Immediately address health and safety noncompliance issues identified by authority having jurisdiction or by Departmental Representative.

.2 Provide Departmental Representative with written report of action taken to correct noncompliance of health and safety issues identified.

.3 Departmental Representative may stop work if noncompliance of health and safety regulations is not corrected. The Contractor will be responsible for any costs arising from such a "stop work order".

PART 2 - PRODUCTS

2.1 Not Used .1 Not used.

PART 3 - EXECUTION

3.1 Not Used .2 Not used.

END OF SECTION

Part 1 - General

1.1 Scope of Environmental Protection

.1 This section specifies the environmental requirements that the Contractor will adhere to as a minimum. The scope of environmental protection includes the following tasks.

1.2 Regulatory Framework

.1 The Contractor shall observe all applicable Federal, Provincial and Municipal legislation, regulations, guidelines and codes of practice including but not limited to the following:

- .1 Canadian Environmental Protection Act
- .2 Transport of Dangerous Goods Act
- .3 National Fire Code, 1995
- .4 Underwriters' Laboratories of Canada
- .5 National Building Code, 1995 (with all current amendments)
- .6 Work Site Hazardous Material Information System Regulations (WHMIS)

.2 Soil Criteria/Guidelines:

- .1 CCME Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health, 2001.
- .2 CCME Canada Wide Standards for Petroleum Hydrocarbons in Soil, 2001.
- .3 BC CSR Generic and Matrix Numerical Soil Standards.
- .4 BC CSR Leachate Quality Standards.
- .5 Yukon CSR Generic and Matrix Numerical Soil Standards

.3 Surface Water and Groundwater Criteria/Guidelines

- .1 CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life, 2001.
- .2 BC CSR Generic Numerical Water Standards.
- .3 Yukon CSR Generic Numerical Water Standards.

.4 Sediment Criteria:

- .1 CCME Canadian Sediment Quality Guidelines for the Protection of Aquatic Life, 2001 (freshwater and marine).
- .2 BC Generic Sediment Quality Criteria.

.5 The Contractor shall observe the regulations and standards of other local governing agencies.

1.2	Regulatory Framework (Cont'd)	.6	In case of conflict or discrepancy, the more stringent requirement shall apply. The Contractor shall meet or exceed requirements of contract documents, specified standards, codes and referenced documents. The Contractor will ensure that all on-site personnel are familiar with the mitigation measures included in the Contractor Health and Safety Plan should a spill on site occur.
1.3	WHMIS	.1	The Contractor shall comply with requirements of the Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of hazardous materials and labeling and provision of material safety data sheets (MSDS) acceptable to Labour Canada and Health and Welfare Canada.
		.2	WHMIS is a Canada wide system designed to give employers and workers information about hazardous materials used in the workplace.
		.3	The Contractor shall deliver copies of WHMIS data sheets to PWGSC for each hazardous material prior to bringing hazardous material on site.
1.4	Hazardous Material	.1	Storage and Handling of Hazardous Materials.
		.2	Transportation of Hazardous Materials.
		.3	Disposal of Hazardous Materials.
1.5	Handling and Transportation of Dangerous Goods	.1	The Contractor will observe and enforce all Acts, Regulations and Guidelines required by the regulatory agencies of the Federal, Territorial and potentially provincial governments including but not limited to Environment Canada, Department of Environment and Transport Canada Transportation of Dangerous goods Act and Regulations. In the case of conflict, the more stringent requirements will apply. The Contractor will maintain complete records, including Bills of Lading, Manifests and descriptions of any actions undertaken under the handling and transportation of dangerous goods.
1.6	Compliance of Aboveground/Underground Storage Tanks	.1	Technical Guidelines for Aboveground Storage Tank Systems Containing Petroleum Products (Aboveground Technical Guidelines)
		.2	The Aboveground Technical Guidelines incorporate the CCME Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products. Subject to the modifications set out in the Aboveground Technical Guidelines, the Code of Practice is adopted as the guidelines to be used by Federal Departments.

1.6 Compliance of Aboveground/Underground Storage Tanks (Cont'd)

.3 The modifications are:

.1 Non-application of some Sections of the Codes Practice is defined.

.2 The wording "shall" shall be replaced by "should".

.3 "Authority having jurisdiction" is defined for each clause it appears in.

.4 Allowance is made for equivalents and alternative to materials, systems and procedures not already specified.

.5 Review and certification of the design by a Professional Engineer is recommended.

.6 Product transfer requirements are specified.

.7 A table for upgrading existing tank systems is set out.

1.7 Emergency Spill Response

.1 The Contractor shall prepare an Emergency Spill Response Plan that must be submitted to PWGSC for review of adequacy. The Contractor shall be responsible for the implementation and supervision of this plan and its application to the Contractor's personnel and its subcontractors. The plan shall require that a designated Health and Safety representative (Site Health and Safety Officer (SHSO) is present on-site while personnel are working in association with hazardous materials, fueling and other environmentally sensitive operations. This Health and Safety representative must have received training equivalent to OSHA 40-hour Hazardous Waste Operation and Emergency Response Training Course.

1.8 Clean up

.1 The work is to be conducted on the Alaska Highway and designated Maintenance Camps and the highest standards of site cleanliness and control must be maintained on and off the Alaska Highway. The Contractor must include in its tender price all costs relating to removal of all surplus materials, debris and equipment on completion and cleaning up the site to PWGSC's satisfaction.

1.9 Relevant Standards

.1 The Contractor shall be responsible for ensuring that all of its materials and workmanship are in compliance with relevant standards, codes, regulations and generally in accordance with good practice. Proof of good standing with the local Workers' Compensation Board (WCB) is required.

PART 2 – MANDATORY INSURANCE REQUIREMENTS

.1 Minimum Requirements

.1 As a minimum, the Contractor shall maintain the following:

.1 Environmental Liability Insurance

.1 Pollution Liability insurance for sudden pollution incidents;

.2 Pollution Liability insurance for non-sudden pollution incidents in the amount no less than $2,000,000 per incident.

END OF SECTION

PART 1 - GENERAL

1.1 Installation and Removal

.1 Provide construction facilities in order to execute work expeditiously.

.2 Remove from site all such work after use.

1.2 Scaffolding

.1 Provide and maintain scaffolding, ramps, ladders, swing staging, platforms and temporary stairs as necessary to carry out work.

1.3 Measurement Procedures

.1 No separate payment under Construction Facilities.

1.4 Hoisting

.1 Provide, operate and maintain hoists and cranes required for moving of workers, materials and equipment. Make financial arrangements with subcontractors for use thereof.

.2 Hoists and cranes shall be operated by qualified operator.

1.5 Site Storage/Loading

.1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.

.2 Do not load or permit to load any part of work with a weight or force that will endanger the work.

1.6 Equipment, Tool and Materials Storage

.1 Provide and maintain, in a clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.

.2 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with work activities.

1.7 Sanitary Facilities

.1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.

.2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.8 Construction Signage

.1 Provide and erect, within two weeks of signing contract, a project identification site sign in a location designated by Departmental Representative. Supply, installation, maintenance, removal and all other incidental costs associated with the project identification site sign are included in the mobilization and demobilization lump sum items in the Schedule of Quantities and unit Prices.

.2 Provide project identification site sign comprising foundation, framing, and one 1200 x 2400 mm signboard as detailed and as described below. Framework and battens: SPF, pressure treated minimum 89 x 89 mm.

.1 Signboard: 19 mm Medium Density Overlaid Douglas Fir Plywood to CSA 0121.

1.8 Construction Signage (Cont'd)

.2 Paint: alkyd enamel to CAN/CGSB-1.59 over exterior alkyd primer to CGSB 1-GP-189.

.3 Fasteners: hot-dip galvanized steel nails and carriage bolts.

.4 Vinyl sign face: printed project identification, self adhesive, vinyl film overlay supplied by Departmental Representative.

.3 Locate project identification sign as directed by Departmental Representative.

.4 Direct requests for approval to erect a Consultant/Contractor signboard to Departmental Representative. For consideration, general appearance of Consultant/Contractor signboard must conform to project identification site sign. Wording shall be in both official languages.

.5 Signs and notices for safety and instruction shall be in both official languages. Graphic symbols shall conform to CAN3-Z321.

.6 Maintain approved signs and notices in good condition for duration of project, and dispose of off site on completion of project or earlier if directed by Departmental Representative.

PART 1 - 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 Description	.1	This section specifies requirements of regulatory agencies related to establishment and removal of construction camps.
1.2 Requirements of Regulatory Agencies	.1	Camp and service area locations are subject to approval of Departmental Representative and are to be established and operated in accordance with local regulations governing operations of field camps.
	.2	Prior to installation of camp and services, submit plan of layout to Departmental Representative for approval.
	.3	Apply to authority having jurisdiction for authorization for use of water and disposal of domestic sewage wastes. Obtain authorization prior to establishing camp.
	.4	Comply with Environment Regulations.
1.3 Measurement for Payment	.1	No separate payment for construction camp.
	.2	Unit price to include all costs for all camps in this contract.

PART 2 - PRODUCTS

2.1 Not Used	.1	Not used.

PART 3 - EXECUTION

3.1 Mobilization	.1	Mobilize equipment, camp, personnel and material. Establish temporary buildings, shops, offices and facilities. Obtain necessary license and approvals.
	.2	Upon vacating camp and services area sites, clean up and leave in condition satisfactory to Departmental Representative.
3.2 Maintenance	.1	Maintain camps in neat and tidy condition.
	.2	No separate payment for camp clean-up.

END OF SECTION

PART 1 - GENERAL

1.1 Section Includes

.1 Administrative procedures preceding preliminary and final inspections of work.

1.2 Inspection and Declaration

.1 Contractor's Inspection: Contractor and all subcontractors shall conduct an inspection of work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.1 Notify Departmental Representative in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.

.2 Request Departmental Representative's Inspection.

.2 Departmental Representative's Inspection: Departmental Representative and Contractor will perform inspection of work to identify obvious defects or deficiencies. Contractor shall correct work accordingly.

.3 Completion: submit written certificate 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 Operation of systems have been demonstrated to Owner's personnel.

.5 Work is complete and ready for Final Inspection.

.4 Final Inspection: when items noted above are completed, request final inspection of work by Owner, Departmental Representative and Contractor. If work is deemed incomplete by Owner and Departmental Representative, complete outstanding items and request re-inspection.

1.3 Measurement for Payment

.1 No separate payment for Closeout 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 Related Sections	.1	Section 01 33 00 – Submittal Procedures
	.2	Section 01 35 43 – Environmental Procedures
1.2 References	.1	Export and Import of Hazardous Waste Regulations (EIHW Regulations), SOR/92637.
	.2	National Fire Code of Canada 1995
	.3	Transportation of Dangerous Goods Act (TDG Act) 1992, (T19.01).
	.4	Transportation of Dangerous Goods Regulations (TDGR), (SOR/8577, SOR/85585, SOR/85609, SOR/86526).
1.3 Definitions	.1	Dangerous Goods: Product, substance, or organism that specifically listed or meets the hazard criteria established in Transportation of Dangerous Goods Regulations.
	.2	Hazardous Material: Product, substance, or organism that is used for its original purpose; and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.
	.3	Hazardous Waste: Any hazardous material that is no longer used for its original purpose and that is intended for recycling, treatment or disposal.
	.4	Workplace Hazardous Materials Information System (WHMIS): A Canada wide system designed to give employers and workers information about hazardous materials used in the workplace. Under WHMIS, information on hazardous materials is to be provided on container labels, material safety data sheets (MSDS), and worker education programs. WHMIS is put into effect by a combination of federal and provincial laws.
1.4 Submittals	.1	Submit product data in accordance with Section 01 33 00 – Submittal Procedures.
	.2	Submit to Departmental Representative current Material Safety Data Sheet (MSDS) for each hazardous material required prior to bringing hazardous material on site.
	.3	Submit hazardous materials management plan to Departmental Representative that identifies all hazardous materials, their use, their location, personal protective equipment requirements, and disposal arrangements.

1.5 Storage and Handling

.1 Coordinate storage of hazardous materials with Departmental Representative and abide by internal requirements for labeling and storage of materials and wastes.

.2 Store and handle hazardous materials and wastes in accordance with applicable federal and provincial laws, regulations, codes, and guidelines.

.3 Store and handle flammable and combustible materials in accordance with current National Fire Code of Canada requirements.

.4 Observe smoking regulations at all times. Smoking is prohibited in any area where hazardous materials are stored, used, or handled.

.5 Abide by the following storage requirements for quantities of hazardous materials and wastes in excess of 5 kg for solids, and 5 litres for liquids:

- .1 Store hazardous materials and wastes in closed and sealed containers that are in good condition.
- .2 Label containers of hazardous materials and wastes in accordance with WHMIS.
- .3 Store hazardous materials and wastes in containers compatible with that material or waste.
- .4 Segregate incompatible materials and wastes.
- .5 Ensure that different hazardous materials or hazardous wastes are not mixed.
- .6 Store hazardous materials and wastes in a secure storage area with controlled access.
- .7 Maintain a clear egress from storage area.
- .8 Store hazardous materials and wastes in a manner and location that shall prevent them from spilling into the environment.
- .9 Have appropriate emergency spill response equipment available near the storage area, including personal protective equipment.
- .10 Maintain an inventory of hazardous materials and wastes, including product name, quantity, and date when storage began.

.6 Ensure personnel have been trained in accordance with Workplace Hazardous Materials Information System (WHMIS) requirements.

.7 Report spills or accidents immediately to Departmental Representative and the ESO. Submit a written spill report to

Departmental Representative within 24 hours of incident.

1.6 Transportation

.1 Transport hazardous materials and wastes in accordance with federal Transportation of Dangerous Goods Act, Transportation of Dangerous Goods Regulations, and applicable provincial regulations.

.2 If exporting hazardous waste to another country, ensure compliance with federal Export and Import of Hazardous Waste Regulations.

.3 If hazardous waste is generated on site:

- .1 Coordinate transportation and disposal with Departmental Representative.
- .2 Ensure compliance with applicable provincial laws and regulations for generators of hazardous waste.
- .3 Use only a licensed carrier authorized by provincial authorities to accept subject material.
- .4 Prior to shipping material, obtain written notice from intended hazardous waste treatment or disposal facility that it will accept material and that it is licensed to accept this material.
- .5 Label containers with legible, visible safety marks as prescribed by federal and provincial regulations.
- .6 Ensure that only trained personnel handle, offer for transport, or transport dangerous goods.
- .7 Provide a photocopy of all shipping documents and waste manifests to Departmental Representative.
- .8 Track receipt of completed manifest from consignee after shipping dangerous goods. Provide a photocopy of completed manifest to Departmental Representative.
- .9 Report any discharge, emission, or escape of hazardous materials immediately to the Departmental Representative and appropriate provincial authority. Take reasonable measures to control release.

PART 2 - PRODUCTS

2.1 Materials

.1 Only bring on site the quantity of hazardous materials required to perform work.

.2 Maintain MSDSs in proximity to where the materials are being used. Communicate this location to personnel who may have contact with hazardous materials.

PART 3 - EXECUTION

3.1 Disposal

.1 Dispose of hazardous waste materials in accordance with applicable federal and provincial acts, regulations, and guidelines.

.2 Recycle hazardous wastes for which there is an approved, cost effective recycling process available.

.3 Send hazardous wastes only to authorized hazardous waste disposal treatment facilities.

.4 Burning, diluting, or mixing hazardous wastes for purpose of disposal is prohibited.

.5 Disposal of hazardous materials in waterways, storm or sanitary sewers, or in municipal solid waste landfills is prohibited.

.6 Dispose of hazardous wastes in a timely fashion in accordance with applicable provincial regulations.

END OF SECTION

PART 1 - GENERAL

1.1	Related Sections	.1	Section 31 05 18 Micro Surfacing.
1.2	Measurement for payment	.1	Cost of processing aggregate is included in unit price of measurement item in section for which aggregate is being produced. Cost of any Clearing and Grubbing, Stripping, Hauling and Excavating Aggregate to be incidental to Contract Bid Items.
		.2	Cost for quality control testing should be incidental to unit price of measurement item in section for which aggregate is being produced and include all wages, accommodations, transportation, lab trailer, testing equipment, and all other associated costs.
		.3	Aggregate can be produced in Pit at Km 366 (Adsett) or supplied by Contractor from another source.
1.3	References	.1	ASTM C131-89, Test Method for Resistance to Degradation of Small- Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
		.2	ASTM C136-92, Method for Sieve Analysis of Fine and Coarse Aggregates.
		.3	ASTM D2419-79, Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
		.4	ASTM D3910-90, Practice for Design, Testing and Construction of Slurry seal.
		.5	ASTM D4318-84, Test Method for Liquid Limit, Plastic Limit and Plasticity Index Soils.
		.6	CAN/CGSB-8.2-M88, (R10/3 Series), Sieves Testing, Woven Wire, Metric.
		.7	CAN/CGSB-16.2-M89, Emulsified Asphalts, Anionic Type, for Road Purposes.
		.8	CAN/CGSB-16.4-M89, Emulsified Asphalts, Cationic Type, road Purposes.
		.9	ASTM D6997-04, Standard Test Methods for Emulsified Asphalt (Residue y Distillation).
1.4	Testing Procedures	.1	All references to CSA, ASTM, AASHTO and other contained in this specification are the latest published editions or revisions to the quoted standard.

1.5	Quality Control	.1	Contractor shall be responsible for quality control on all materials produced.
		.2	A Certified Engineering Technician from a professional testing firm, equipped for aggregate testing, shall be on site at all times during aggregate production.
		.3	A program for aggregate testing and test results shall be developed on site with Departmental Representative.
		.4	In addition to the testing done by the contractor the Departmental Representative may take aggregate samples at random and have them tested by an outside testing firm.
1.6	Aggregate Testing by Lot System	.1	The rate of sampling shall be based on Lots. The maximum Lot size shall be one shift production. The Departmental Representative may reduce the Lot size to a half shift if in his opinion it is warranted to ensure compliance with the specification.
		.2	The Lot shall be divided into four approximately equal sub-lots and one sample shall be selected and tested on a random basis from each sub-lot.
		.3	In the event that operational conditions cause work to be interrupted before the Lot has been completed, the Departmental Representative may determine the acceptability of the incomplete Lot on the basis of the test results available.
1.7	Sampling Procedures	.1	The technician will perform all necessary sampling and testing for acceptance purposes. Sampling will be carried out at the source during production.
		.2	Obtain samples by stopping the production discharge belt, sectioning the belt and removing all material from the sectioned area or obtained from a sampling device provided by the Contractor. Obtain samples from the production stockpile by combining sub-samples from at least four locations.
1.8	Testing	.1	Perform gradation testing according to ASTM C117 and ASTM C136.
		.2	Samples for belt testing and stockpile testing will not be mixed in considering the acceptance of any Lot.
1.9	Acceptance Criteria	.1	A lot of aggregate will be deemed to meet specification requirements for gradation if the mean of four test results from the Lot fall within gradation limits specified in the contract and

the range if the test results is no greater when considering any one sieve designation than the numerical difference between the maximum allowable percent for that sieve designation as shown in the contract.

1.9 Acceptance Criteria Cont'd

.2 In the event the Departmental Representative decides that acceptance will be determined on the basis of an incomplete Lot, the incomplete Lot will be deemed to meet specification in the same manner as outlined above, except that the number of test results available in the incomplete Lot will be used rather than the four tests.

.3 In the event that a Lot does not meet specification, the Lot will be removed from the stockpile as directed by the Departmental Representative. No payment will be made for the material not meeting the specification of the Lot system.

.4 Leveling of the material of each Lot into the stockpile shall not commence until the lot has been accepted.

.5 In cases where Lots are being rejected, the Departmental Representative may require indeterminate stockpiling, in which case costs for the indeterminate stockpiling are included in test procedures.

1.10 Pit Supervisor

.1 The Contractor, when operating in a pit or quarry, will comply with all provisions of the Mines Act and the Health Safety and Reclamation Code for Mines in British Columbia.

.2 The Contractor shall provide a qualified pit/quarry supervisor or shift boss to supervise work undertaken therein. The Contractor shall ensure that the pit/quarry supervisor or shift boss is duly certified in accordance with the Section 1.12 and 1.13 of the Health Safety and Reclamation Code for Mines in British Columbia.

PART 2 - PRODUCTS

2.1 Materials

.1 Aggregate quality: sound, hard, durable material free from soft, thin, elongated or laminated particles, organic material, clay lumps or minerals, or other substances that would act in deleterious manner for use intended.

.2 Flat and elongated particles of coarse aggregate: to ASTM D4791-99.

.1 Greatest dimension to exceed five times least dimension.

.3 Fine aggregates satisfying requirements of applicable section to be one or blend of following:

2.1 Materials Cont'd

.1 Natural sand.
.2 Manufactured sand.
.3 Screenings produced in crushing of quarried rock, boulders, gravel or slag.

.4 Coarse aggregates satisfying requirements of applicable section to be one or blend of following:
.1 Crushed rock.
.2 Gravel composed of naturally formed particles of stone.
.3 Light weight aggregate, including slag and expanded shale.

PART – 3 EXECUTION

3.1 Topsoil Stripping

.1 Commence topsoil stripping of areas directed by Departmental Representative after area has been cleared and grubbed and debris has been removed from site.
.2 Strip topsoil to depths directed by Departmental Representative.
.3 Stockpile topsoil in locations directed by Departmental Representative.

3.2 Aggregate Source

.1 Prepare, excavate, and finish pit as directed by Departmental Representative.
.2 Prior to excavating materials for aggregate production, clear and grub area to be worked, and strip unsuitable surface materials. Dispose of cleared, grubbed and unsuitable materials as directed by Departmental Representative.
.3 Where clearing is required, leave screen of trees between cleared area and roadways as directed by Departmental Representative.
.4 Clear, grub and strip area ahead of quarrying or excavating operation sufficient to prevent contamination of aggregate by deleterious materials.
.5 When excavation is completed dress sides of excavation to nominal 3:1 slope, and provide drains or ditches as required to prevent surface standing water.
.6 Trim off and dress slopes of waste material piles and leave site in neat condition.

3.3 Processing

.1 Process aggregate uniformly using methods that prevent contamination, segregation, and degradation.
.2 Blend aggregates, if required, to obtain gradation requirements, percentage of crushed particles, or particular shapes, as specified. Use methods and equipment as approved by Departmental Representative.
.3 Wash aggregates, if required to meet specifications. Use only equipment approved by Departmental Representative.
.4 When operating in stratified deposits use excavation equipment and methods that produce uniform, homogenous aggregate.

3.4	Handling	.1	Avoid segregation, contamination and degradation of aggregate during handling and transporting.
3.5	Stockpiling	.1	Stockpile aggregates in locations directed by Departmental Representative. Do not stockpile on completed pavement surfaces.
		.2	Stockpile aggregates in sufficient quantities to meet project schedules.
		.3	Stockpile sites to be level, well drained, and of adequate bearing capacity and stability to support stockpiled materials and handling equipment.
		.4	Except where stockpiled on acceptably stabilized areas, provide compacted sand or crushed gravel base not less than 300mm in depth to prevent contamination of aggregate. Do not incorporate compacted base of pile into work.
		.5	Separate different aggregates by strong, full depth bulkheads, or stockpile far enough apart to prevent intermixing.
		.6	Do not use intermixed or contaminated materials. Remove and dispose of rejected materials as directed by Departmental Representative.
		.7	Stockpile aggregates in uniform layers 1m thick.
		.8	Uniformly spot-dump aggregates delivered to stockpile as specified.
		.9	Do not use piles or spill material over edges of piles.
		.10	Do not use conveying stackers that cause segregation of aggregates.
		.11	During winter operations, prevent ice and snow from becoming mixed into stockpile or in material being removed from stockpile.
3.6	Cleaning	.1	Leave aggregate stockpile site in tidy, well drained condition, free of standing surface water.
		.2	Leave any unused aggregates in neat compact stockpile in locations directed by Departmental Representative.
		.3	For temporary or permanent abandonment of aggregate source, restore source to conditions directed by Departmental Representative.

END OF SECTION

PART 1 - GENERAL

1.0 Description

.1 This section specifies requirements for preparing a mix of aggregate, filler, water and other additives and applying a properly proportioned micro surfacing treatment to the driving lanes on existing pavement to restore surface.

.2 Micro Surfacing must be capable of being spread in variable thickness cross sections which, after curing and initial traffic consolidations, resists compaction throughout the entire design tolerance range of asphalt cement content and variable thickness to be encountered.

.3 Micro Surfacing is to be a quick set, quick traffic system, meaning that it will be able to accept traffic after 60 minutes.

.4 Micro Surfacing shall be free of lumping, balling or mixed aggregate. It shall be free of streaks caused by oversized aggregate.

.5 Construction practices to be in accordance with ISSA's manual entitled "Micro Surfacing (Quality control): A guide to quality construction.

2.0 Related Work

Traffic Regulations	HC 01592
Summary of Work	01 11 00
Aggregates General	31 05 17

3.0 References

.1 ASTM C131-89, Test Method for Resistance to Degradation of Small- Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.

.2 ASTM C136-92, Method for Sieve Analysis of Fine and Coarse Aggregates.

.3 ASTM D2419-79, Test Method for Sand Equivalent Value of Soils and Fine Aggregate.

.4 ASTM D3910-90, Practice for Design, Testing and Construction of Slurry seal.

.5 ASTM D4318-84, Test Method for Liquid Limit, Plastic Limit and Plasticity Index Soils.

3.0	References Cont.	.6	CAN/CGSB-8.2-M88, (R10/3 Series), Sieves Testing, Woven Wire, Metric.
		.7	CAN/CGSB-16.2-M89, Emulsified Asphalts, Anionic Type, for Road Purposes.
		.8	CAN/CGSB-16.4-M89, Emulsified Asphalts, Cationic Type, road Purposes.
		.9	ASTM D6997-04, Standard Test Methods for Emulsified Asphalt (Residue y Distillation).
4.0	Samples	.1	Submit two 4 L containers of cationic polymer modified emulsified asphalt cement (emulsion). Emulsion samples to be in plastic containers.
5.0	Material Certification	.1	Upon request, submit manufacturer's test data and certification that emulsion meets requirements of this section.
6.0	Measurement for Payment	.1	Micro Surfacing will be measured in square metres of surface treated.
7.0	Materials	.1	Polymer solids, quick setting emulsifier agents, asphalt cement and water shall be milled into the emulsion by an approved emulsion manufacturer.
		.2	Emulsion: to ASTM D2397, Grade CSS-1H, except for the following Table:

Test	Description	Requirements
ASTM D6997-04	by distillation; % by Mass	62 % Minimum
ASTM D36	Softening point; 0° Celsius	57 Minutes
ASTM D5	Penetration at 0.1 mm (25 °C., 100g., 5 sec)	40 to 90 dmm

7.0 Materials Cont.

.3 Aggregate: material to the following requirements:

.1 100 % crushed rock or gravel consisting of hard, durable particles, free from clay lumps, cementation, organic material, frozen material and other deleterious materials.

.2 Gradation: to ASTM D3910, Table 1, or consider sieve sizes specified in ISSA A143.

Sieve, um	% Stockpile Passing	Tolerance
10 000	100	+/-5%
5 000	70-90	+/-5%
2 500	45-70	+/-5%
1 250	28-50	+/-5%
630	19-34	+/-5%
315	12-25	+/-4%
160	7-18	+/-3%
80	5-15	+/-2%

.3 Once gradation for the mix design has been submitted, the stockpile, must be within the tolerances outlined in 7.2 Table 1.

.4 Screen aggregates before delivery to lay down machine to remove oversized material.

.5 Plasticity index: to ASTM D4318, maximum 0.

.6 Los Angeles Degradation tests: to ASTM C131, maximum 35%.

.7 Petro Graphic Analysis: maximum 120.

.8 Soundness: 25% maximum Mg S04.

.4 Filler Type 10: Portland cement, non-air entrained to ASTM D3910.

7.0 Materials Cont.

.5 Sand equivalent of combined aggregate and filler: minimum 45, to ASTM D2419.

.6 Water: potable, free of harmful salts and contaminates.

.7 Additives: added to control quick –set properties and adhesion must be compatible with other components and included as part of the design.

.8 Polymer Modifier shall be a minimum of 3% polymer solids by Mass of asphalt residue.

.9 Micro Surfacing: all materials used in the mix design shall be representation of the materials proposed by the Contractor. The design shall conform to the following requirements.

Test	ISSA Number	Requirements
Wet Cohesion @ 30 min., kg-cm	TB-139	12 minimum
Wet Cohesion @ 60 min., kg-cm	TB-139	20 minimum
Load Wheel, g/m²	Tb-109	500 maximum
Wet Stripping, %	TB-114	90 minimum
Wet Track Abrasion, 1 h soak, g/m²	TB-100	538 maximum
Wet Track Abrasion, 6 day soak, g/m²	TB-100	807 maximum
Lateral Replacement, %	TB-147A	5 maximum
Specific Gravity	TB-147A	2.1 maximum
Mix Time @ 25 degrees, s	TB-113	120 minimum

8.0 Job Mix Formula

.1 Job mix formula will be provided by the Contractor. A construction material laboratory equipped to carry out Micro Surfacing mix designs shall design the mix proportions and prepare the job mix formula. The compatibility of the aggregate and the polymer modified emulsified asphalt shall be confirmed by the laboratory designing the mix. The mix design must contain ;

.1 Minimum emulsion content of 15 % by Mass of dry aggregate.

8.0 Job Mix Formula Cont.

.2 At least one week prior to commencing work provide Departmental Representative with report giving detailed data and test results on trial mixes and design selected.

.3 Wet track abrasion loss of field samples not to exceed 538 g/m² for one hour soak or 807 g/m² for 6 day soak when tested to ASTM D3910.

.4 The Contractor shall arrange for and have all testing to ensure that the materials placed are in conformance with the mix design. The extent, schedule and frequency of testing shall be approved by the Departmental Representative. Provide Departmental Representative with copies of all testing.

.5 The Contractor must demonstrate the ability to produce and place an acceptable Micro Surfacing product by the placement of a trial area 150 m in length and two lanes in width within the project limits.

9.0 Equipment

Do Micro Surfacing work in accordance with ASTM D390 and ISSA requirements except where specified otherwise.

.1 Mixing equipment:

.1 There shall be a minimum of two self-propelled mixing machines working on the project at any one time.

.2 The machine shall be specially designed and manufactured to lay Micro Surfacing.

.3 The material shall be mixed by an automatic sequenced self propelled Micro Surfacing mixing machine which shall be a continuous flow mixing unit, able to accurately deliver and proportion the aggregate, polymer modified emulsified asphalt cement, filler, control setting additive, and water to a revolving multi-blade double shaft mixer and discharge the mixed product on a continuous flow basis.

.4 The machine shall have sufficient storage capacity for all materials to maintain an adequate supply to the proportioning.

.5 Individual volume or mass controls for proportioning each material to be added shall be provided and properly marked.

.6 Proportioning devices/revolution counters or similar devices are to be used in material calibration and determining the material output at any time. These devices shall be calibrated in the presence of the Departmental Representative prior to commencing work and all calibration factors established to accurately monitor mix proportion applied by each load

.2 Spreading Equipment:

9.0 Equipment Cont.

.1 The mixture shall be spread uniformly by means of a conventional augured surfacing spreader box attached to the mixer and equipped with paddles to agitate and spread the material evenly throughout the box. A front seal shall be provided to ensure no loss of the mixture at the pavement contact point. The rear seal which shall act as strike-off shall be adjustable. A secondary strike-off shall also be required. The spreader box and strike-offs shall be so designed and operated that a uniform consistency is achieved to produce a free flow of material to the rear strike-off. The spreader box shall have suitable means provided to side shaft the box to compensate for variations in the pavement cross sections.

.3 Rolling Equipment:

.1 Smooth pneumatic-tired, self-propelled typ. Wobble-wheel types will not be permitted. Rollers to exert force of at least 3t/m of rolling width. Minimum contact pressure to be 300 kPa. Rollers to be equipped a water sprinkling apparatus to keep wheels damp to prevent adherence to Micro Surfacing.

10.0 Preparation of Surface

.1 The surface area shall be thoroughly cleaned of all vegetation and loose debris using a rotary power broom. Water shall be applied immediately to pre-wet the surface and shall be applied immediately ahead of spreader at a rate to dampen the surface without allowing any free-standing or free flowing water.

11.0 Application

.1 Obtain Departmental Representative's approval of existing surface prior to applying Micro Surfacing.

.2 The minimum application rate will be 13 km/m² based on dry aggregate.

.3 Spread mixture to fill minor cracks and potholes and leave a uniform surface.

.4 The spreader box must be loaded so that all parts remain charged with mixture.

.5 Water may be sprayed into the spreader box to facilitate spreading without harming the mixture.

.6 No lumping, balling, or unmixed aggregate shall be permitted in the finished surface.

.7 Any oversized aggregate or foreign materials shall be screened from the aggregate prior to delivery to the mixture machine.

.8 The Micro Surfacing shall be spread in such a manner that a slight

crown of 4mm will be constructed into each wheel path to allow for compaction by traffic.

11.0 Application Cont.

.9 Do not place Micro Surfacing when air temperature is less than 10 °C and the weather is not foggy or rainy and there is no forecast of air temperature below 0° within 24 h from time of application.

.10 Spreader box and strike-offs are to be thoroughly cleaned each time the lay down machine stops.

12.0 Handwork

.1 In restricted areas where hand spreading is necessary, slight adjustments to the mix formula may be used to retard the setting time.

.2 The mixture shall be poured into a small windrow along one edge of the surface to the covered.

.3 The mixture shall be spread uniformly with squeegees or other suitable tools.

13.0 Curing

.1 Keep traffic off Micro Surfacing until it has cured to a firm condition that will prevent pick-up of mix.

.2 The Contractor shall be responsible for ensuring that the mixture is not damaged by traffic.

.3 Traffic, including construction traffic, shall be kept off the mixture is damaged to the surface.

14.0 Rolling

.1 Rolling will be required where Micro Surfacing is placed over extensively scaled areas and in areas subject to turning, braking or acceleration forces.

.1 Where indicated, roll each application with minimum 5 passes of pneumatic tired roller when slurry has cured sufficiently that clear water can be squeezed from mix. Increase operating contact pressure if directed by Departmental Representative.

15.0 Acceptance

.1 Initial acceptance will occur with the issue of an interim certificate of completion and a one year warranty period beginning when the following requirements have been met:

.1 100% coverage of treated surfaces.

.2 No streaking.

.3 No flushing or bleeding.

.4 The finished Micro Surfacing shall have a uniform texture, free of scratch marks, tears or other surface irregularities.

.2 Final acceptance will be met when Departmental Representative and Contractor meet one year after the completion of the work and inspect the work and agree that it has not failed.

.1 Failure is deemed to occur when:

.1 There are many bare areas.
.2 There are flushed or bleeding areas greater that 1 m in length in the wheel paths.

15.0 Acceptance Cont.

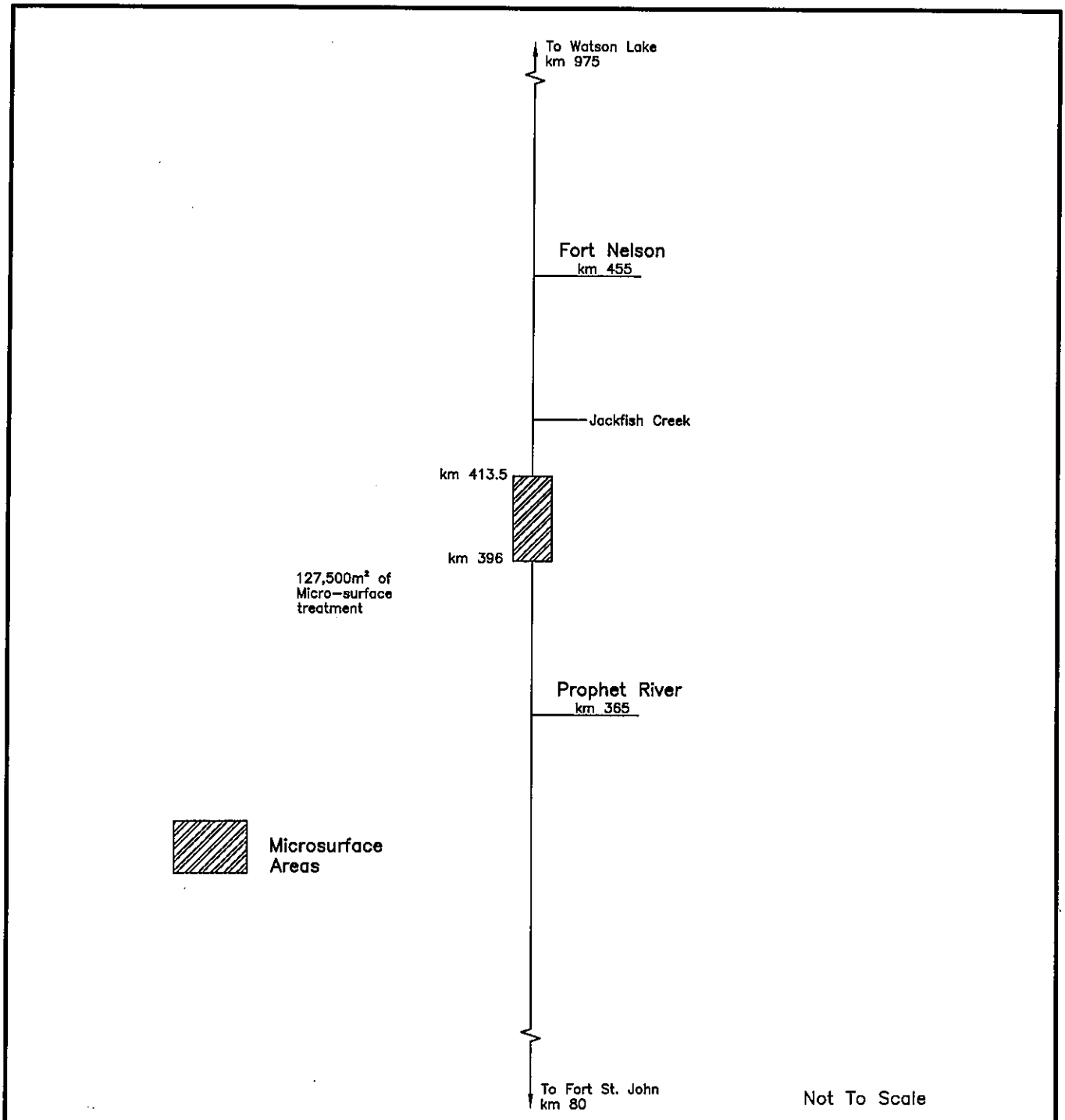
.2 Contract security shall not be released prior to final acceptance.

.3 All areas deemed by the Departmental Representative to have failed within the one year warranty term will be repaired at the Contractor's expense.

.4 Failed areas repaired by the Contractor after the one year warranty term will also have a one year warranty term.

16.0 Liability

The Contractor shall be responsible for administrating, resolving and processing any and all claims resulting in property and/or bodily injury as a result of work carried out under this contract until final acceptance in such a manner as to save and hold harmless the crown in such matters.



project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY BRITISH COLUMBIA	LINE DIAGRAM MICRO SURFACE AREAS

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Pacific Region

designed by / concu par	drawn by / dessine par	scale / echelle	date / date
George Smith	B. Woodworth	N.T.S.	April 2013

approved by / approuve par	project no. / projet no.
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