

**GENERAL SPECIFICATIONS,
SPECIFICATION AMENDMENTS
AND
SUPPLEMENTAL SPECIFICATIONS
FOR
HIGHWAY AND BRIDGE
CONSTRUCTION**

Supplemental to the Standard Specifications for Highway Construction, Edition 14, 2010, and the Specifications for Bridge Construction, 2010 manuals.

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GENERAL SPECIFICATIONS**1.1 DEFINITIONS AND INTERPRETATION**

All Department employee titles and descriptions are subject to change based on prescribed operational parameters. In these Specifications, unless the context requires a contrary meaning:

1.1.1 BIDDER

"Bidder" shall mean any individual, partnership, or corporation submitting a tender for the Work contemplated, acting directly or through a duly authorized representative.

1.1.2 BRIDGE CULVERTS

"Bridge Culverts" shall mean Corrugated Steel Pipe and Structural Plate Corrugated Steel Pipe with an equivalent diameter of 1500 mm or greater usually associated with road crossings of streams or other small watercourses.

1.1.3 BRIDGE STRUCTURES

"Bridge Structures" shall mean overhead sign structures, standard bridge and major bridge structures generally associated with bridging roadways, railways or large watercourses.

1.1.4 CONTRACT

"Contract" shall mean the written agreement covering the performance of the Work and the furnishing of labour, equipment and Material in the construction of the Work, and shall include without limiting the generality of the foregoing, the Tender, Contract form, Contract bonds, Plans, Specifications, special provisions, notices, supplemental specifications, specification amendments and all supplemental agreements required to complete the Work.

1.1.5 CONTRACTOR

"Contractor" shall mean the person agreeing to perform the Work set out in the Contract.

1.1.6 CONSTRUCTION COMPLETION

"Construction Completion" shall mean when all Work specified in the Contract, excluding Work required during the warranty period, has been completed by the Contractor in accordance with the Specifications and Plans and accepted by the Department.

1.1.7 CONSULTANT

"Consultant" shall mean the Professional Engineer or Engineering consulting firm that has been retained by the Department to administer the Contract.

1.1.8 CONSULTANT'S REPRESENTATIVE

"Consultant's Representative" shall mean the person assigned by the Consultant to the Work, acting within the scope of the particular duties entrusted to him.

1.1.9 DEPARTMENT

"Department" shall mean Her Majesty the Queen in right of Alberta, as represented by Alberta Transportation and includes a person authorized by the Minister to perform, on his behalf, any of his functions under the Contract.

1.1.10 IMPLIED PROVISIONS

In the Contract:

- (i) words importing male persons include female persons and corporations;
- (ii) words in the singular include the plural and words in the plural include the singular;
- (iii) the applicable law shall be the law of the Province of Alberta;
- (iv) time shall be of the essence; and
- (v) headings and subheadings are not substantive and are inserted for convenience of reference only.

1.1.11 MATERIAL

"Material" shall mean all or any part of the commodities, or other items used or expended in the prosecution of the Work, and include materials furnished by the Contractor or by the Department for use by the Contractor.

1.1.12 MINISTER

"Minister" shall mean the person holding the position of the Minister of Transportation for the Province of Alberta or his authorized representative.

1.1.13 PERSON

"Person" shall include a corporation or a partnership and the heirs, executors, administrators or other legal representatives of a person.

1.1.14 PLANS

"Plans" shall include all drawings, or reproductions of drawings, provided by the Department and pertaining to the Work.

1.1.15 SPECIFICATIONS

"Specifications" shall include all specifications and the directions, schedules, special provisions and requirements contained herein, together with all written agreements made or to be made, pertaining to the method and manner of performing the Work, or to the quantities or quality of Material to be furnished under the Contract.

1.1.16 SUPPLIER

"Supplier" shall mean the "the person who supplies the materials for incorporation into the Work, either to the Contractor, a subcontractor or a sub-subcontractor."

1.1.17 SURETY

"Surety" shall mean the person bound with the Contractor to provide security, respectively, for one or more of:

- (i) the due performance of the Contract;
- (ii) the payment in full for all items of labour and materials used or reasonably required for use in the performance of the Contract;
- (iii) the repair of any damage to or failure in the Work to which the Contract relates and for which the Contractor is responsible under the Contract.

1.1.18 TOTAL TENDER

"Total Tender" shall mean the sum of all the extensions of all the bid items in the unit price schedule in the Contract.

1.1.19 UTILITY COMPANY

"Utility Company" shall mean an individual, partnership or corporation that carries on business in Alberta as a generator, distributor, producer or seller, to the public in Alberta or elsewhere, of electrical energy, natural gas, oil, steam, water, telecommunications and railroads, whose facilities may have impact on the Work.

1.1.20 WORK

"Work" shall mean all or any part of the work to be performed under the Contract by the Contractor, whether complete or incomplete, as originally set forth or as revised by the Department, and any or all of the equipment, material and labour supplied by or for the Contractor.

1.2 GENERAL SPECIFICATIONS

1.2.1 TENDERS

All tenders must be submitted on the forms furnished by the Department. All blank spaces under the headings "Unit Price", "Estimated Quantity" where applicable, and "Total Bid" must be filled in. If the tender is submitted by an individual, his name and address must be given.

If the tender is made by a partnership or corporation, the name of the partnership or of the corporation must be given, and the address to which all notices or letters are to be mailed must be given in addition to the signature of one of the officers of the partnership or corporation.

Tenders shall bear the Bidder's signature and official seal, or the Bidder's signature shall be witnessed and the Affidavit of Execution completed.

All addenda issued during the tendering period must be acknowledged in the space provided on the tender forms.

Tenders may be rejected if they show any irregularity or non-compliance.

The Department reserves the right to waive an irregularity or non-compliance where the irregularity or non-compliance is minor or inconsequential. The determination of what is or is not a minor or inconsequential irregularity or non-compliance, and the determination of whether to waive or not waive the irregularity or non-compliance, shall be at the Department's sole discretion.

1.2.2 QUANTITIES

1.2.2.1 **General**

The quantities given in the tender form are to be considered as approximate only, and are to be used in the comparison of tenders. Final payment to the Contractor will be made only for the actual quantities of Work performed or Material furnished in accordance with the Plans and Specifications as determined by measurements made by the Consultant. It is agreed that the quantities of Work to be done or Material to be furnished may be altered by the Consultant and such alterations shall not be considered as a waiver of any condition of the Contract, nor as invalidating any of the provisions thereof, nor shall any changes be made in the Contract unit prices on account of such alterations, but the same unit prices shall apply as if no alteration had been made.

1.2.2.2 **Lump Sum Items**

Estimated quantities associated with lump sum bid items are provided only for the Contractor's information. These estimates are based on in-place quantities to the neat lines shown on the drawings. The Contractor shall confirm these quantities as necessary. It is agreed that submission of a tender shall be conclusive evidence that the bidder has made such confirmation and that, whether or not he has so confirmed, is willing to assume and does assume all risk with regard to lump sum bid items.

Section 1.2.2.3, Quantity Variations, will not apply to lump sum bid items.

1.2.2.3 **Quantity Variations**

1.2.2.3.1 Conditions for Unit Price Adjustment

Notwithstanding Subsection 1.2.2.1, General, and except for items of work, if any, for which the applicability of this Section has been specifically excluded elsewhere in the Contract, the Minister and the Contractor may agree to adjust a rate or price contained in the Contract:

- (i) if, the actual quantity of work executed under the item exceeds or falls short of the estimated quantity specified in the Unit Price Schedule by more than 15%; and,
- (ii) if, there is no off-setting adjustment with respect to the quantity of any other item of work; and,
- (iii) if it is determined to be a major bid item under the following conditions:
 - (a) for quantity over-runs; based on the actual quantity of work executed and the rate or price contained in the Unit Price Schedule, the extended amount of the item exceeds 15% of the original Total Tender amount shown in the Unit Price Schedule; or
 - (b) for quantity under-runs; based on the estimated quantity of work stated in the Unit Price Schedule and the rate or price contained in the Unit Price Schedule, the extended amount of the item exceeds 15% of the original Total Tender amount shown in the Unit Price Schedule; and
- (iv) if, the Contractor believes that he has incurred significant additional expense as a result thereof or the Minister believes that the quantity variation entitles the Contractor to an adjustment in the rate or price.

1.2.2.3.2 Quantity Over-Runs

An adjusted rate or price made pursuant to Subsection 1.2.2.3.1, where the actual quantity of work executed under the item exceeds the estimated quantity specified in the Unit Price Schedule by more than 15%, shall apply only to the quantity that is in excess of 115% of the estimated quantity specified in the Unit Price Schedule.

1.2.2.3.3 Quantity Under-Runs

An adjusted rate or price made pursuant to Subsection 1.2.2.3.1, where the actual quantity of work executed under the item falls short of the quantity specified in the Unit Price Schedule by more than 15%, shall not exceed the rate or price that would cause the total amount paid for the bid item to exceed the product of the original rate or price contained in the Unit Price Schedule multiplied by 85% of the estimated quantity specified in the Unit Price Schedule.

1.2.3 EXAMINATION OF WORK

1.2.3.1 **Bidder's Investigation**

The Bidder shall examine the Plans, Specifications and Contract forms and carefully investigate and satisfy himself of every condition affecting the Work including the site conditions, and the labour and Material to be provided. It is agreed that submission of a tender shall be conclusive evidence that the Bidder has made such investigation and that, whether or not he has so investigated, he is willing to assume and does assume all risk regarding conditions affecting the Work.

Any information pertaining to subsurface soil, rock and groundwater conditions on the borehole/testpit logs shown on the drawings has been obtained for design purposes and is valid

only at the specific locations of the boreholes/testpits and on the date that the subsurface investigations took place. Bidders may wish to supplement this information, for their purposes, by performing additional investigations.

1.2.3.2 Hierarchy of Documents

In the event of discrepancies, the hierarchy of documents shall be as follows, in descending order:

- Special Provisions
- Applicable appendices contained in the document entitled Dispute Resolution Process for Government of Alberta Construction Contracts, Edition 1, 1997
- Project specific construction plans
- Standard construction plans
- Specification amendments
- Supplemental specifications
- General specifications
- Standard construction specifications

In the event of a difference between scaled dimensions on Plans and the figures written thereon, the figures shall govern. In the event that two or more plans show conflicting information, the information on the most recently dated plan shall govern.

Any technical and manufacturer's standard, Government Act, Regulation, or Code of Practice referred to in the Contract documents shall be the version current at the time the Contract is awarded.

1.2.3.3 Plans

When the Tender has full sized plans or drawings included separately, the drawing package will be available for purchase by bidders as required during the tender period.

For construction, the Consultant will provide the Contractor with four sets of full sized drawings containing any revisions made during the tender period. The construction drawings will be marked "Issued for Construction".

Only Drawings marked "Issued for Construction" shall be used as construction drawings.

1.2.3.4 Deviations From Plans

No deviation from the Plans or the approved working drawings will be permitted without the written order of the Consultant.

1.2.3.5 Omissions

In the event of an omission of any detail from the Specifications or Plans, only the best general practice is to prevail and only Material and workmanship of the highest quality are to be used.

1.2.3.6 Interpretation and Modification of Tender Documents

The Contractor shall submit questions about the meaning and intent of the Tender Documents directly to the Engineering Consultant at the office identified in the special provisions. Interpretations and modifications considered necessary by the Consultant in response to such questions will be issued by the Department in writing in the form of an Addendum.

Addenda may also be issued by the Department to modify the Tender Documents as deemed necessary.

The Contractor shall submit questions as early as possible during the tendering period. The Consultant may not respond to questions received too close to the bid closing time to permit issuance of an Addendum.

Replies to questions, interpretations and modifications made in a manner other than by written Addendum shall not be binding.

1.2.4 DISQUALIFICATION OF BIDDERS

The right to reject any or all tenders is reserved by the Minister, and the lowest or any tender will not necessarily be accepted.

Only one tender from an individual, firm, partnership or corporation will be considered. Reasonable grounds for believing that any Bidder is interested in more than one tender for the Work, in the capacity of the Contractor, may cause the rejection of all tenders in which such Bidder is interested.

Any or all tenders will be rejected if there is reason for believing that collusion exists among the Bidders, and none of the participants in such collusion will be considered in future proposals.

Failure to satisfactorily complete previous contracts, avoidable delays in completing such contracts, or a lack of experience or capital will be considered sufficient cause for rejecting any tender.

1.2.5 COMPETENCY

1.2.5.1 **General**

Contracts will not be awarded to any government agency including but not limited to the government of Canada, the government of a province or territory of Canada, any agency thereof, or any municipality or other unit of local government within any province or territory of Canada.

"Government Agency" means a branch, unit, subsidiary or other form of entity, owned or controlled by a government agency and includes any subsidiaries or entities owned or controlled by that agency.

Contracts will only be awarded to Bidders registered with Service Alberta, Corporate Registry.

The low bidder may be required to supply evidence of experience, equipment, ability and financial capability before the Contract is executed.

At the time of Contract execution, the successful bidder shall submit on forms supplied by the Department a detailed schedule delineating commencement and completion dates for each phase of the Work, planned fleet numbers, production rates and working hours.

1.2.5.2 Safety Prequalification

Contracts will only be awarded to Bidders who, prior to the time fixed for receiving tenders, possess a Certificate of Recognition (COR) which is relevant to their industry and which is recognized by Alberta Employment, Immigration and Industry, Workplace Health and Safety.

Bidders are advised that a small employer's certificate of recognition (for employers with less than ten employees) is not considered acceptable.

For Bidders who have not obtained a Certificate of Recognition, a valid Temporary Letter of Certification (TLC) issued by the Alberta Construction Safety Association (ACSA) will be considered acceptable.

The Department will confirm that the Bidder possesses a COR or a valid TLC through the Alberta Construction Safety Association.

It is the Bidder's responsibility to ensure his registration in the program is properly documented with the Alberta Construction Safety Association and the Department will assume no liability for errors or omissions by the Alberta Construction Safety Association in this regard.

During the progress of the Work, the Contractor shall complete Monthly Health and Safety Summary Reports and submit these reports to the Consultant's Representative at the end of each month.

When the Contract has been completed, the Contractor and Consultant's Representative shall jointly complete the Project Completion Health and Safety Report.

The Department will provide copies of these forms to the Contractor.

1.2.5.3 Conflicts of Interest

As required by the Conflicts of Interest Act (Alberta) no member of the legislative assembly or person directly associated with a member, as defined in the Act, shall submit a bid for this Contract.

1.2.6 DELIVERY OF TENDERS

All tenders must be submitted in sealed envelopes addressed as shown in the Instructions to Bidders and marked "Tender for Construction" or "Tender for Bridge Construction" with the highway or bridge file number clearly marked thereon. All tenders must be received at the proper location and by the time and date set for the receipt of such tenders as shown in the Instructions to Bidders.

1.2.7 BID DEPOSIT

1.2.7.1 Requirements

Each tender must be accompanied by a Bid Bond, Certified Cheque, Money Order or a Bank Draft equal to 10 % of the tender amount.

1.2.7.2 Forfeiture

If, within 21 days after the Contract is presented to him for signature, hand delivered or sent by registered mail or courier addressed to him at the address stated in his tender, the Bidder refuses or fails:

- (i) to sign and return to the Department the Contract for the performance of the Work and the supplying of Material covered by his tender; or
- (ii) to provide the security for the performance of the Contract and for labour and material payment as required by Section 1.2.9, Security; or
- (iii) to provide the insurance required by Section 1.2.10, Insurance;

the bid bond or deposit shall be subject to forfeiture to the Department, and if a Contract for that Work and Material is then entered into with some other person for a greater amount, the Bidder is liable to the Department in the amount equal to the difference between the amount of his tender and the amount of the Contract actually entered into, the maximum not exceeding the amount of the security required under this Section.

1.2.8 ACCEPTANCE OR WITHDRAWAL OF TENDER

A Bidder may withdraw his tender when he submits a request in writing signed by the Bidder, or his agent in fact, if the request is received in the office set out in Section 1.2.6 at any time up to the time fixed for receiving tenders.

No Bidder may withdraw a tender at or after the time fixed for receiving tenders until:

- (i) some other person has entered into a contract with the Minister for the performance of the Work and the supplying of the Material specified in the notice inviting tenders, or
- (ii) 35 days after the time fixed for receiving tenders,

whichever occurs first.

1.2.8.1 Tender Changes

A Bidder wishing to change his Tender, may withdraw the Tender in accordance with Section 1.2.8, modify and resubmit it in accordance with Section 1.2.6, Delivery of Tenders.

Alternatively, if this change is to the unit price schedule only, the Bidder may send a facsimile (FAX) message on a copy of the "TENDER AMENDMENT FORM" included in the Tender Document, to the number and to the attention of the Director, Tender Administration, as shown in the Instructions to Bidders. To be acceptable, the form must be received by the time and date set for the receipt of the tender in accordance with Section 1.2.6, Delivery of Tenders, and the Instructions to Bidders. The time of the submission will be considered the receipted time as shown on the Department's FAX machine.

1.2.9 SECURITY

The successful Bidder shall furnish security in a form satisfactory to the Department, in the amount of:

- (i) 50% of the Contract tender price for the due performance of the Contract;
- (ii) 50% of the Contract tender price for the payment in full of all claims for labour and for Material used or reasonably required for use in the performance of the Contract; and
- (iii) the total interim payment for crushing and stockpiling when required.

1.2.9.1 Bonds

A Performance Bond and a Labour and Material Payment Bond will be the type of security required.

The Department will provide the successful Bidder with standard forms of these bonds for completion.

1.2.9.2 Alternative Forms of Security

When specified in the special provisions, an Irrevocable Letter of Credit, Certified Cheque, Bank Draft or Money Order may be used as security in lieu of a Performance Bond and a Labour and Materials Payment Bond.

When an Irrevocable Letter of Credit is used in lieu of bonds or as security for interim payment for crushing, it shall comply with the following:

- (i) The Irrevocable Letter of Credit shall be provided by a Domestic Chartered Bank as listed in the Bank Act, "Schedule A, Domestic Chartered Banks", "Schedule B, Foreign Chartered Banks", or the Alberta Treasury Branch.
- (ii) Unless otherwise approved by the Department, the Irrevocable Letter of Credit shall be worded the same as the sample in the Contract.
- (iii) The Irrevocable Letter of Credit shall initially be dated to expire a minimum of five months after the specified Contract completion date except for an Irrevocable Letter of Credit used as security for interim payment for crushing and stockpiling aggregates which shall be dated to expire on the specified Contract completion date.
- (iv) Should the time to complete the Contract extend beyond the specified Contract completion date, the Contractor may be required to provide the Department with an Irrevocable Letter of Credit with a revised expiry date. Where the Contractor is required to provide for this extension in time, the Contractor shall, within 14 days of being notified of the requirement, provide to the Department the Irrevocable Letter of Credit with the revised expiry date. Should the Contractor fail to provide this revised Irrevocable Letter of Credit, the Department will without further notice draw funds on the original Irrevocable Letter of Credit.

An Irrevocable Letter of Credit, Certified Cheque, Bank Draft or Money Order used in lieu of a Labour and Materials Payment Bond, will be released 120 days after the date of Construction Completion providing there are no outstanding claims filed with the Department against the Contractor.

An Irrevocable Letter of Credit, Certified Cheque, Bank Draft or Money Order used in lieu of a Performance Bond will be released:

- (i) After the Department's acceptance of the Work as detailed in Section 1.2.52, Construction Completion and Acceptance; or
- (ii) In cases where Section 1.2.53, Contractor's Warranty and Final Acceptance applies, after the expiration of the warranty period provided any repairs are completed to the satisfaction of the Department.

An Irrevocable Letter of Credit used as security for interim payment for crushing and stockpiling aggregate will be returned to the Contractor upon acceptance of the Work.

1.2.10 INSURANCE

The Contractor shall, without limiting his obligations or liabilities herein and at his own expense, provide and maintain the following insurances in compliance with the Alberta Insurance Act, and in forms and amounts acceptable to the Department:

- (i) General Liability Insurance in an amount not less than five million dollars (\$5,000,000) inclusive per occurrence, insuring against bodily injury, personal injury and property damage including loss of use thereof. The Minister is to be added as an additional insured under this policy for any and all claims arising out of the Contractor's operations. The policy shall be endorsed to state it is primary and will not require the pro rata sharing of any loss by any insurer of the Minister. Such insurance shall include but not be limited to:
 - Products and Completed Operations Liability;
 - Owner's and Contractor's Protective Liability;
 - Blanket Written Contractual Liability;
 - Contingent Employer's Liability;
 - Personal Injury Liability;
 - Non-Owned Automobile Liability;
 - Cross Liability with respect to additional insureds;
 - Employees as additional insureds;
 - Broad Form Property Damage Endorsement;
 - Operation of Attached Machinery;
 - Sudden and accidental pollution,

and where such further risk exists:

- Blasting, Demolition, Pile Driving, Caisson Work or Tunneling, as applicable;
 - Elevator and Hoist Liability;
 - Towing/On Hook Coverage.
- (ii) Automobile Liability on all vehicles owned, operated or licensed in the name of the Contractor in an amount not less than \$5 million.
 - (iii) Aircraft and/or Watercraft Liability for all craft owned, operated or licensed in the name of the Contractor and for all non-owned craft used in the operations of the Contractor, in an amount not less than \$5 million per occurrence and including passenger hazard liability where applicable.
 - (iv) For bridge structures, bridge culverts and building structures, Course of Construction insurance in the form of an "all risks" builder's risk policy. Such policy shall insure the Work to a minimum of the full value of the bridge or building component of the Contract price and the full value of any bridge or building Material that is provided by the Department for

incorporation into the Work and shall include coverage for the risk of flood where such peril exists. Such insurance shall be in the joint names of the Contractor, the Minister, the subcontractors, and all others having an insurable interest in the Work, and shall continue until the date of Construction Completion.

All the foregoing insurance shall be primary and not require the pro rata sharing of any loss by any insurer of the Minister.

The Contractor shall provide the Department with a certified true copy of each policy prior to execution of the Contract.

The Contractor shall ensure that Products and Completed Operations coverage, as applicable, shall be in force for the duration of the warranty period.

All required insurance shall be endorsed to provide the Department with 30 days advance written notice of material change or cancellation.

The Contractor shall require and ensure that each subcontractor provides evidence of comparable insurance to that set forth in clauses (i) through (iv) of this section.

The Contractor is responsible for insuring his equipment against "all risks" of accidental loss or damage. The Contractor shall waive his right of recourse against the Minister with regard to any loss or damage to the equipment and shall make his insurer aware of this waiver.

1.2.11 CONTRACT DESIGN CHANGE PROPOSALS

1.2.11.1 **General**

After the tender is awarded, the Contractor has the option of submitting a Contract Design Change Proposal for an alternate design or change to the Department's design or any component thereof provided cost savings can be achieved without compromising the integrity and quality of the project. These proposals will be accepted or rejected by the Department at its sole discretion. Proposals shall be submitted through the Department's Regional office.

Project Net Cost Savings will be shared on a 65% / 35% basis between the Contractor and the Department. These net savings shall be identified, itemized, confirmed and fixed prior to the Department giving approval to proceed with the proposed changes.

When a Contract Design Change Proposal is submitted, a preliminary technical review will be conducted by the Department to ensure it meets the Department's requirements. A one week period will be required for this review after which the proposal will be accepted or rejected. If the proposal is accepted, the Contractor shall complete a detailed design as required.

When submitting a Design Change Proposal, the Contractor shall also provide non-refundable certified cheques in accordance with the following:

- (i) Preliminary Technical Review - At the time the proposal is submitted, the Contractor shall provide a non-refundable certified cheque in the amount of \$1,000.
- (ii) Final Design Review - If the Project Net Cost Savings (PNCS) is more than \$10,000.00, the Contractor shall provide an additional non-refundable certified cheque in the amount of \$3,000.00 at the final design review stage. If the PNCS is less than or equal to \$10,000.00, the contractor will not be required to provide the \$3,000.00.

Contract Design Change Proposals shall be sufficiently complete at the preliminary technical review stage so that the Department can fully assess alternates for equivalencies, and compliance to standards and practices, including functionality, serviceability, durability, maintainability and overall cost effectiveness. The Department may recommend or request adjustments or alterations to the proposal to make it acceptable.

Acceptance or rejection of the proposal at any time during the initial review process will not be considered a basis for claim or relieve the Contractor of any obligations of the Contract.

Once both parties have agreed to the terms and conditions of the proposal, the Contract will be modified through a supplementary agreement (Contract Change) to incorporate the changes agreed upon, all other Contract conditions will remain in effect.

1.2.11.2 **Payment**

Project Net Cost Savings (PNCS) shall be taken as the cost difference between the Department's tendered design and the Contractor's proposed design, net any additional costs or savings incurred by the Department. The Contractor's Cost for Contract Changes (CCCC) shall include but are not limited to, any required design work, the preparation of the proposal submission, the involvement of the Contractor's engineer if necessary and all costs associated with construction and profit. The Department's costs and/or savings (DC) shall include those which are project related but outside the terms of the Contract, such as, but are not limited to, consultant costs for participating in the review of the Contractor's proposal, project testing, measurement, inspection, including any specialized inspection required by the Department, and management;

$$\text{PNCS} = \text{DTDC} - \text{CCCC} \pm \text{DC}$$

PNCS - Project Net Cost Savings

DTDC - Department's Tender Design Cost

CCCC - Contractor's Cost for Contract Changes

DC - Department Costs (Savings(+), Additional Costs (-))

Payment to the Contractor to complete the work identified in the proposal will be made through progress payments in accordance with the terms and conditions agreed to for the proposal. This payment shall not exceed the Contractor's estimate for the work as identified in the proposal.

Payment of the Contractor's 65% share of the Project Net Cost Savings will be made as a lump sum payment to the Contractor once the project is ready for the Construction Completion Inspection.

1.2.11.3 **Engineering Standards and Guidelines for Contract Design Change Proposals**

1.2.11.3.1 General Requirements

Proposals will be evaluated for compliance with Alberta Transportation Standards and Guidelines for Highway and Bridge Structures. If a proposed alternate does not meet or exceed the Department's standards, guidelines, practices or specifications, it is the responsibility of the Contractor to undertake the level of engineering necessary to justify the deviation. Details of the justification with supporting documentation must be provided to the Department with the submission.

For environmental and other approval requirements, the Contractor shall note that conditions on any existing permits and approvals are only applicable for the existing Contract. When required the Contractor must resubmit the plans and drawings for review and obtain new or revised permits and approvals.

1.2.11.3.2 For Bridge Structures and Bridge Culverts

Alberta Transportation reference documents:

- Engineering Consultant Guidelines for Highway and Bridge Projects
- Engineering Drafting Guidelines for Highway and Bridge Projects
- Design Guidelines for Bridge Size Culverts
- Fish Habitat Guidelines for Stream Crossings
- CAN/CSA-S6-06 Canadian Highway Bridge Design Code
- Bridge Structures Design Criteria Version

Other reference information, such as bridge file records and design notes will be made available in the Departments office for the Contractors use.

1.2.11.3.3 For Highways

The Department's design designation for the project which specifies the design speed, road top width and other basic design parameters shall not be changed.

Alberta Transportation reference documents:

- Engineering Consultant Guidelines for Highway and Bridge Projects
- Highway Geometric Design Guide
- Traffic Control Standards Manual
- Drafting Guidelines
- Pavement Design Manual
- Alberta Highway Pavement Marking Guide

Other reference information such as file records and design notes will be made available in the Department's office for the Contractor's use.

1.2.11.3.4 Preliminary Technical Review - Submission Requirements for Contract Design Change Proposals

The preliminary technical review will be conducted by the Department to assess the proposal, for equivalencies and compliance to the Department's standards, guidelines and practices. For the submission at this stage, where plans and drawings are required to illustrate the proposal, the Contractor may make use of and modify as required the Department's Plans. For major design changes, the Contractor shall prepare additional sketch plans as required that reasonably represent the design alternate or change.

To permit the Department to assess the proposal, the Contractor shall provide a written submission to the Department which includes when applicable, information on the following items:

1.2.11.3.4.1 General

- (i) Describe the difference between the existing Contract requirements and the proposal.

- (ii) Indicate the Contractor's Cost for Contract Changes (CCCC) as defined herein, with supporting calculations and cost estimates.
- (iii) Identify potential impacts of the proposal on road users or other stake holders including but not limited to landowners, municipalities, utility companies, and other government agencies, with respect to access, usage, right-of-way agreements. The Contractor shall outline how he will resolve these issues.
- (iv) Indicate the date by which the proposal must be accepted to realize the cost savings identified, and also identify the effect, if any, the proposal has on the Contract Completion Date and when applicable, the number of Site Occupancy days identified in the Contract.
- (v) Identify the key human resources to be employed in preparing the proposal, including details of their past related project experience.
- (vi) Where a significant change to the Contract is proposed, provide evidence that the Contractor's Bonding Company is aware of and supports the proposal submission.

1.2.11.3.4.2 For Bridge Structures and Bridge Culverts

The following are typical requirements for a submission that involves major changes to the Department's tendered design. Items from this list will apply as appropriate to minor changes and the nature of the change.

- (i) Plan View showing structure layout, roadway geometrics and alignment, stream channel and river protection works, and right-of-way limits.
- (ii) Elevation View showing span(s), foundation type, stream channel section, all significant hydro technical data such as design upstream high water elevation and freeboard. Also for culvert type structures show invert elevations.
- (iii) Section view showing superstructure elements such as deck, slabs, curbs, girder type, size and number, type of bridgerail proposed, etc. For culvert type structures, show invert length, geometry, and elevations, river projection works, and any special details.
- (iv) Description of materials to be used and finish treatment. Timber materials will not be permitted.
- (v) Pier Section showing pier type and details of pier foundation.
- (vi) Abutment Elevation Section showing abutment and foundation details.
- (viii) Description of bearing and deck joints.

1.2.11.3.4.3 For Highways

- (i) Geometric: show any proposed changes to horizontal alignment, vertical alignment, typical cross-section(s), right-of-way, hazards in clear zone or near clear zone, guardrail, access management.
- (ii) Traffic Engineering and Control: show changes to signing, pavement marking, railway crossings and work zone traffic accommodation.

- (iii) Geotechnical: indicate any additional testing requirements, changes in materials, slope changes or erosion control requirements.
- (iv) Surfacing Design: including first course gravel, base courses, asphalt concrete pavement, and Portland cement concrete pavement. Provide details of changes to surfacing strategy, structural design, aggregate requirements, binder material, geometrics and clearances. Provide details of any effects the proposed changes would have on design life of the surfacing structure.

1.2.11.3.5 Detailed Design Review - Requirements for Contract Design Change Proposals

1.2.11.3.5.1 General Requirements

If the proposal is accepted, the Contractor shall complete a detailed engineering design. The design drawings shall be in a similar format and carried out to the same level of detail as the original design.

The alternate design or change shall be designed and independently checked by Professional Engineers, registered in the Province of Alberta and shall be complete in all respects, including all drawings and other information necessary to perform the work. Both the designer and the checker shall stamp the drawings.

Upon receiving the detailed design submission the Department will require a total period of eight (8) working days for reviewing the design drawings and details. The Department and its Consultant assume no responsibility for correctness or adequacy of the design as a result of this review. The Contractor's engineer will assume professional responsibility as Engineer of Record for all engineering aspects associated with the proposed changes.

1.2.11.3.5.2 For Bridge Structures and Bridge Culverts

The detailed design shall meet the Department's standards and guidelines as prescribed for loading, geometrics, hydraulics and material.

For bridge work, the Contractor shall submit the final design drawings in one full package. If fast tracking is necessary, then contingent upon Department approval, the Contractor may submit the final design drawings in two stages for a) the substructure, and b) the superstructure, in which case two - four (4) day periods will be required for design reviews. The submission for the superstructure shall include the superstructure loads.

- (i) The design shall comply with the requirements of CAN/CSA-S6-00 and the requirements of Alberta Infrastructure and Transportation "Bridge Structures Design Criteria Version - 5.00".
- (ii) The Department's "Specification for Bridge Construction" shall be used for materials and construction and shall be supplemented, where required, with the approval of the Department.

1.2.11.3.5.3 For Highways

The detailed design for Highways and Roads shall meet the Department's standards and guidelines for geometric standards, environmental guidelines, pavement design, address all geotechnical and erosion concerns, meet guidelines contained in Traffic Control Standards or any other applicable standards or guidelines. The detailed design shall be documented as required in the Engineering Consultant Guidelines for Highway and Bridge Projects.

1.2.11.3.6 Other Requirements And Conditions For Contract Design Change Proposals

During the detailed design process or construction phase, the Contractor shall be responsible for making adjustments or alterations at his own cost, for whatever cause, to the proposal to make it congruent with the specified requirements for a complete job.

No portion of construction can commence until the design or change has been accepted for that portion of the Work.

The Consultant will be responsible for resident engineering services during construction. The Contractor shall make provision for the involvement of his engineer as necessary. If the proposal involves inspection work which is unfamiliar or beyond the capabilities of the Department's Consultant and a specialist is required, all costs for additional or specialized inspection will be the responsibility of the Department.

In the development or preparation of the proposal, the Contractor shall not employ the Department's Consultant who is providing engineering services on this Contract.

1.2.12 PRE-CONSTRUCTION MEETINGS

1.2.12.1 **General**

Prior to commencement of the Work, a pre-construction meeting will be conducted by the Consultant. The Contractor shall ensure that his project supervisor, his designated safety representative and a representative for each sub-contractor, as determined by either the Consultant or the Contractor, are in attendance.

1.2.12.2 **Bridge Structures**

An additional meeting is required when fabrication of precast concrete girders, structural steel or bridgerail is involved or when any other specialized construction is included in the Contract. The Consultant will conduct this meeting after the shop drawings have been approved but before fabrication commences. The Contractor shall ensure the plant superintendent and plant manager responsible for the work and any manufacturer's representatives directly involved in the specialized work are in attendance.

1.2.13 MOBILIZATION AND DEMOBILIZATION

Where Mobilization is included as a bid item, it shall consist of the necessary work and operation including, but not limited to, the movement of personnel, equipment, supplies and incidentals to the Work, the establishment of offices, camps and other facilities necessary to undertake the Work and for expenses incurred for other work and operations which must be performed prior to the commencement of the Work.

The Department will pay for mobilization at the lump sum price bid for "Mobilization" which payment shall be compensation in full for all costs associated with mobilization. No payment for mobilization will be made until the value of the work completed on bid items other than mobilization exceeds 10% of the total tender price. Payments for interim crushing and stockpiling aggregate are not considered as value of Work completed on a bid item when payment for Mobilization is being considered. When the amount bid for Mobilization exceeds 10% of the total original Contract tender amount, the Department will withhold the portion in excess of 10% until the date of Construction Completion.

The amount bid for Mobilization will be paid only once, regardless of the number of times the Contractor mobilizes. If the Contract does not contain a bid item for "Mobilization", no direct payment will be made for costs associated with mobilization.

There will be no separate payment made for demobilization.

1.2.14 COMMENCEMENT AND SCHEDULING OF WORK

The Contractor shall commence the Work in accordance with the time limits set out in the Contract or on a date acceptable to the Department and confirmed in writing between the Contractor and the Department.

The Contractor shall commence the Work and proceed with diligence to prosecute the Work in accordance with the agreed upon schedule in sufficient time to complete the Work on or before the completion date specified in the Contract.

The Contractor shall immediately notify the Department and the Consultant of any proposed changes to the agreed upon schedule.

1.2.15 CONSULTANT'S AND DEPARTMENT'S ACCESS TO THE WORK

The Contractor shall provide the Consultant and the Department with suitable and safe access to all parts of the Work at any time, for the purpose of inspection and measurement, and when the Work is being carried out at night, lighting shall be provided so that all operations are plainly and safely visible.

1.2.16 SITE OFFICES FOR BRIDGE STRUCTURE CONSTRUCTION

The Contractor shall provide and maintain in a clean and safe condition an office trailer at the site for the sole use of the Consultant. The site office trailer shall be located within the Contractor's working area, separate from the Contractor's office or any other structure, and meet the following requirements:

- Minimum floor area 11 m², with minimum headroom of 2.4 m
- Adequate lighting, heating and ventilation
- Windproof, weatherproof and insulated
- Lockable exterior door
- Adequate windows on all sides, with screens and shades
- Minimum 2 electrical receptacles
- Resilient flooring material
- One plan or drafting table with one stool
- One desk - minimum 1500 x 600, and two chairs
- One two drawer filing cabinet

Details of the office, its contents and its proposed location shall be submitted to the Consultant for approval.

The Contractor shall provide the site office prior to the commencement of any field work and for the duration of the Contract.

The location of the trailer will be determined by the Consultant, based on the work sequence undertaken by the Contractor. The Contractor may be required to move the trailer occasionally to locate it suitably with respect to the work.

The Consultant may require the trailer to be moved about the site as the work progresses. Such moves will be considered incidental to the work, and no separate or additional payment will be made.

In contracts involving multiple sites more than one trailer may be required.

In the event the Contractor fails to provide an office trailer(s) as specified, the Consultant will make the necessary arrangements for supplying the specified trailer(s). The cost of providing the office trailer(s) and all associated costs shall be the responsibility of the Contractor and monies will be deducted from the monthly progress payments accordingly.

1.2.17 TEMPORARY SUSPENSION OF WORK

1.2.17.1 **Authority To Suspend Work**

The Consultant and the Consultant's Representative shall have the authority to suspend the Work, in whole or in part, for such a period as he may deem necessary, due to conditions that he considers unfavourable for the prosecution of the Work or due to the failure of the Contractor to comply with any provision of the Contract.

In situations where the Consultant is not on site, the Department will have the authority to suspend the Work if, in its opinion, the Contractor fails to adequately provide for the safety of the public.

Upon receipt of a notice to suspend the Work, the Contractor shall immediately suspend those operations specified. No such suspension shall vitiate or void the Contract, or any part thereof, or any security or obligation for the performance thereof, or relieve the Contractor of any other responsibility under the terms of the Contract including the preservation and care of the site and Material.

During a period of suspension, the Contractor shall not remove without the consent of the Consultant any part of the material or equipment previously provided for the Contract.

The Contractor shall not suspend the Work without the consent of the Consultant.

1.2.17.2 **No Compensation**

Subject to Subsection 1.2.17.3, Compensation for Standby, the Contractor shall not have any claim for compensation or damages against the Department or Consultant for any suspension, stoppage, hindrance or delay from any cause whatsoever.

No compensation will be made to the Contractor for a suspension, stoppage, hindrance or delay of the Work due to the fault of the Contractor including, without limiting the generality of the foregoing, delays by strikes of the employees of the Contractor or sub-contractors.

1.2.17.3 **Compensation for Standby**

When the Work or any part of it is suspended by order of the Consultant for a reason which is not related to the Contractor's performance of the Work, the Department may consider a claim for payment of standby costs which may be incurred by the Contractor. When such costs are claimed they shall be legitimate, reasonable, and supported by proper documentation as required by the Consultant, and submitted in accordance with Section 1.2.54, Claims and Dispute Resolution.

The Department will not pay for standby costs related to any of the following:

- Weather or other natural conditions;
- Failure by the Contractor to carry out orders given by the Consultant;
- Any failure by the Contractor to comply with a requirement or provision of the Contract;
- Any failure by the Contractor to provide for the safety of the public or his, the Department's or the Consultant's work force;
- Any failure by the Contractor to protect the property of the Department or others;
- Any delay occurring while defects or failures in the Work are being remedied;
- Any change in the quantity of any item of Work from the estimated quantity shown in the Contract Unit Price Schedule;
- Any equipment or work force which was not actually present and actively working on the Work immediately prior to the suspension of the Work;
- Any haul trucks or their drivers used on the Work;
- Any suspension of the Work that is less than 4 hours in duration; and
- Testing of Material or Work for compliance with Specifications and Plans.

When the Department fails to provide right-of-way necessary for access to the Work, and has not so notified the Contractor in the special provisions of the Contract, and in the Consultant's opinion alternate work areas are not available or practical to allow continued prosecution of the Work, the Department may consider the payment of a claim for standby, which shall not in any case exceed 10 days.

When a claim for standby is considered by the Department, direct costs which, in the opinion of the Consultant, could not have been avoided by the judicious handling of forces, equipment or plant, will be paid to the Contractor in an amount that the Department may find to be fair and reasonable. No item of cost other than idle time rate of equipment and necessary payments for idle time of workers will be considered.

Compensation for standby time of workers and equipment will be determined by the Department, and in accordance with the following:

- (i) The time paid for will not exceed eight hours in any one day;
- (ii) Saturdays, Sundays and statutory holidays will be excluded;
- (iii) Overhead and profit will be excluded; and
- (iv) The idle time equipment rates will be determined by the Department.

Upon termination of the suspension by the Consultant or the Department, the Contractor shall resume operations at once.

1.2.18 HINDRANCES AND DELAYS

1.2.18.1 **Utilities**

The Consultant will notify all known utility owners or operators to adjust their utility installations as necessary, within or adjacent to the Work. All such utility adjustments will be made by the owners or operators, except as otherwise provided for in the special provisions or as specifically noted on the Plans.

It is understood and agreed that the Contractor has considered in his tender the present and proposed position of all permanent and temporary utilities. No additional compensation will be

paid by the Department for any delay, inconvenience or damage sustained by the Contractor which is caused by the existence of or adjustment to the utilities.

It is further understood and agreed that the Contractor has considered in his tender the scheduling of those items of the Work essential to the adjustment of the utilities, and that the Work will be scheduled and performed at the time required to accommodate these adjustments and without additional compensation.

1.2.18.2 **Work by Others**

The Minister reserves the right at any time to contract for and perform other or additional work, on or near the Work covered by the Contract. When separate Department contracts are in effect on or near the Work and further to Section 1.2.44, Occupational Health and Safety Act, the Contractor shall conduct his operations so as to minimize interference with progress or completion of work being performed by other contractors. The Contractor shall cooperate with others working on or near the Work and, in the case of dispute as to procedure or scheduling of the Work, the Department's decision shall be final and binding on the Contractor.

The Contractor shall have no claim against the Department for any inconvenience, delay or loss arising from the presence and operations of others on or near the Work.

1.2.19 ADJUSTMENT OF COMPLETION DATES

The Department will adjust the specified Contract completion date and/or interim completion date as applicable under the following conditions only. These conditions also apply in situations where a completion date has been previously adjusted by the Department.

- (a) The Contractor submits a written request to the Consultant as soon as possible after the occurrence of the circumstance giving rise to the request and not later than fourteen (14) days after the occurrence of the circumstance. Failure to submit a request within this prescribed time period will prejudice the Contractor's right to receive an adjustment to the completion date, unless the Contractor can demonstrate to the satisfaction of the Department that such delay did not prejudice the ability of the Department to validate the request, and
- (b) The written request is accompanied by an adjusted detailed schedule of the Contractor's work to enable completion on the requested adjusted date and,
- (c) The reason for the request, stated in the request, is one of the following:
 - (i) Completion of the Contract requires work or material in greater amounts or quantities than those estimated amounts or quantities shown in the Contract, or
 - (ii) The work site is not available to the Contractor through no fault of the Contractor, or
 - (iii) There is a delay in the availability of materials which are to be supplied by the Department, or
 - (iv) The Consultant suspends the Work and standby payments are due in accordance with Section 1.2.17, or
 - (v) There is a delay resulting from an order of a court, or from strikes or lock-outs, or

- (vi) There is a delay for reasons of inclement weather, or conditions resulting from inclement weather. Such delays will be considered when the Contractor works on the roadway surface less than half a normal working day for reasons of inclement weather. A normal working day shall comprise the average duration worked by the Contractor on the preceding 5 uninterrupted working days.

Inclement weather occurring after the completion date, will not be considered as a reason for delay. Inclement weather occurring during the period between November 1 and April 30 of the following year will not be considered as a reason for delay.

- (d) The circumstances precipitating the request occurred prior to the completion date and the Contractor demonstrates to the satisfaction of the Consultant that the circumstance impacted the overall project schedule, preventing completion of the Contract by the specified interim or Contract completion date.

If an adjustment to a completion date is granted by the Department on any contract other than a seal coat Contract, the Department will delete the time period between November 1 and April 30 of the next calendar year in setting the adjusted completion date. For example, where the specified completion date is October 15, and the extension is to be 20 days, then the adjusted completion date will be May 4, of the following year.

For the purposes of this section, Seal Coat contracts will be considered Micro-Surfacing, Slurry Seal, Double Seal Coat, Graded Aggregate Seal Coat and Chip Seal Coat.

When an adjustment to the completion date of a Seal Coat contract is granted, the following time periods will be deleted:

- (i) For chip seal coat Contracts, the period between September 16 and April 30 of the following year will be deleted
- (ii) For micro-surfacing, graded aggregate seal coat, double seal coat and slurry seal coat Contracts, the period between September 30 and April 30 of the following year will be deleted.

1.2.20 FAILURE TO COMPLETE ON TIME

If any Work required to be completed by a specified interim completion date remains incomplete after that date or, if any Work remains incomplete after the specified Contract completion date, or as adjusted by the Department under Section 1.2.19, Adjustment of Completion Dates, there will be deducted from money due the Contractor, the cost to the Department of any work and material reasonably expended by the Department which has been made necessary by reason of the Contractor's failure to complete the Work by the date(s) specified in the Contract, or as adjusted, and without in any way limiting the generality of the foregoing, shall include:

- (i) Damages for Delay

The Contractor agrees to provide to the Department, in accordance with the Public Works Act, Chapter P-46, Section 11 (2)(b), a stipulated sum per day for each and every day beyond the specified or adjusted completion date(s) that the Work remains uncompleted, regardless of actual loss or damages, and in accordance with the following terms:

- (a) The sum of \$1,350.00 per day for each calendar day until, in the opinion of the Consultant, the Work required to be completed by the specified interim completion

date has been completed. This daily rate will be reduced to \$ 300.00 per day in situations where the Work to be completed is only minor cleanup. Damages for delay will not be assessed during the time spent correcting deficiencies identified by the Consultant through his inspection of the completed Work.

The sum of \$1,350.00 per day for each calendar day until, in the opinion of the Consultant, the project is ready for the Construction Completion Inspection. This daily rate will be reduced to \$300.00 per day in situations where the Work to be completed is only minor cleanup.

Once it has been established that the project is ready for the Construction Completion Inspection, the assessment of damages for delay will totally cease. The Contractor will not be assessed damages for delay for the time spent correcting any deficiencies identified during the Construction Completion Inspection.

- (b) For all Contracts other than Seal Coat Contracts, regardless of the daily rate charged, there will be no damages for delay assessed during the time period between December 1 and April 30 of the following year.

For the purposes of this section, Seal Coat contracts will be considered Micro-Surfacing, Slurry Seal, Double Seal Coat, Graded Aggregate Seal Coat and Chip Seal Coat.

On chip seal coat Contracts there will be no damages for delay assessed during the time period between September 16 and April 30 of the following year.

On micro-surfacing, double seal coat, slurry seal coat and graded aggregate seal coat Contracts there will be no damages for delay assessed during the time period between September 30 and April 30 of the following year.

- (c) There will be no damages for delay assessed for days lost due to inclement weather or conditions resulting from inclement weather, that occur after the specified or adjusted completion date.

(ii) Actual Loss or Damages

In addition to the daily stipulated sum for Damages for Delay, as set out in Clause (i),, the Contractor agrees to provide to the Department in accordance with the Public Works Act, Chapter P-46, Section 11 Completion of Work (2)(a), the actual loss or damages suffered by the Department for each and every day beyond the specified or adjusted completion date that the Work remains uncompleted for the following items:

- (a) The additional cost of maintenance and repair necessary; and
- (b) The cost of accommodating traffic over, through or around portions of the Work.

The Department will deduct assessed amounts from payments due on this Contract. If there are insufficient funds to cover the assessed amounts, the Department will invoice the Contractor. The Contractor shall promptly pay the amounts invoiced. Should any amounts remain unpaid after 60 days from the date of invoice, the Department may recover such unpaid sum from any money due to the Contractor from the Department on any Contract or account, rendering an accounting to the Contractor for any sums so recovered. The Department refers to this payment, Damages for Delay, as "Liquidated Damages" in some specifications, manuals,

guidelines, and other documents. Please be advised that any such references to Liquidated Damages shall mean Damages for Delay as specified in this Section.

1.2.21 DURATION OF WORK AND SITE OCCUPANCY

1.2.21.1 **General**

When the Contract contains a bid item for "Site Occupancy", bidders shall indicate the number of Calendar Days required to complete the Work under the "Estimated Quantity" column of the unit price schedule and extend that number of days times the unit price per day as shown, to get the total bid for "Site Occupancy".

1.2.21.2 **Calculation of Calendar Days for Site Occupancy**

Calendar Days for site occupancy will be calculated as whole days. The assessment of calendar days will commence on the day of the first disturbance within the right-of-way. Thereafter, every day will be counted as a Calendar Day with the exception of when:

- The Contractor is prohibited from working due to restrictions imposed by local bylaws after the Contract has been awarded or as a result of directives from the Consultant or the Department.
- The Contractor schedules employee time off subject to the conditions specified herein.
- The project is delayed due to inclement weather subject to the conditions specified herein.
- The Contractor is working solely on the development or reclamation of a borrow area.
- The Contractor is working solely on the reclamation or cleanup of a gravel source.
- The Contractor is working solely on the maintenance or restoration of haul roads.
- The project is shutdown for winter.
- The Contractor pre-schedules interruptions to continuous prosecution of the Work as a result of the desire to schedule distinct phases of the Work at different times. Distinct phases are generally defined as the larger work groups such as grading, base, or paving which require different types of equipment; however, the Consultant may approve scheduled interruptions for other components of the Work at his discretion. Any such interruptions must be identified in the Contractor's construction schedule.

For the purposes of this specification, line painting and guardrail construction will not be considered distinct phases of work.

1.2.21.3 **Employee Time Off**

The Contractor will be granted a maximum of eight non-charged days per thirty day period for the purpose of allowing employee time off, providing:

- the Consultant is given at least seven days notice,
- there is no construction ongoing which requires the presence of the Consultant and
- no more than five consecutive days are taken at one time.

The thirty day period will start at the commencement of work as defined above and any of the time-off days not taken in a specified thirty day period will not be permitted to be used in subsequent periods. When the estimated number of Calendar Days for Site Occupancy required to complete the project is less than thirty, the number of allowable days off for this purpose will be prorated.

1.2.21.4 Inclement Weather

A day on which the Contractor is unable to work on the roadway, or works less than half of a normal working day for reasons of inclement weather, or conditions resulting from inclement weather, shall not be counted as a Calendar Day.

Towing traffic or blading the road surface to facilitate the passage of traffic will not be considered as "work on the roadway."

Ripping, drying and/or re-laying material to restore the material to the condition it was prior to the occurrence of inclement weather will also not be considered "work on the roadway."

On a day which the Contractor works less than a normal working day on the roadway for reasons of inclement weather, but works at least half of a normal working day, that day will be counted as a Calendar Day.

A normal working day shall comprise the average duration worked by the Contractor on the preceding 5 uninterrupted working days.

1.2.21.5 Working During Periods of Inclement Weather or Pre-scheduled Interruptions

During periods of inclement weather or during pre-scheduled interruptions of the Work and prior to the completion of these phases of the Work; if, in the opinion of the Consultant, the Contractor is not performing work such as earthwork, granular base course or asphalt concrete paving, other minor work that is normally subject to site occupancy charges may proceed without the assessment of Calendar Days for Site Occupancy. Such work shall include but not be limited to clearing, seeding, guardrail, permanent highway signing, highway lighting, pavement marking, temporary and permanent environmental protection, fencing, culvert rip-rap and trimming backslopes.

The performance of such work at any other time prior to the Construction Completion inspection as detailed in Section 1.2.52, Construction Completion and Acceptance, will result in the assessment of Calendar Days for site occupancy.

1.2.21.6 Exclusions from Site Occupancy

The following items will be excluded from site occupancy regardless of when they are completed:

- (i) The development or reclamation of borrow areas.
- (ii) The development or reclamation of gravel sources.
- (iii) The maintenance or restoration of haul roads.
- (iv) The production of aggregates.
- (v) The construction of milled rumble strips.
- (vi) The preparation and installation of temporary silt fencing or erosion/sediment control measures.

1.2.21.7 Completion of Line Painting

When the Contract includes a line painting component, the Department will decide the priority of expeditious completion of line painting based on traffic volumes and other safety considerations

and will identify the project in the special provisions as either Priority Line Painting or Non-Priority Line Painting.

1.2.21.7.1 Non-Priority Line Painting

Subject to the exceptions detailed in Section 1.2.21.2, Calculation of Calendar Days for Site Occupancy, line painting shall be completed within 5 days of the completion of surfacing work. During this five day period, calendar days will be counted for those days on which the Contractor is performing line painting or other work necessary to prepare the project for final inspection. If, after the five day period, the line painting has not been completed, calendar days will be counted until the line painting is complete.

1.2.21.7.2 Priority Line Painting

Subject to the exceptions detailed in Section 1.2.21.2, Calculation of Calendar Days for Site Occupancy, calendar days will continue to be counted until all Work including line painting is complete and the project is ready for the Construction Completion inspection as detailed in Section 1.2.21.9.

1.2.21.8 **Completion of Guardrail Construction**

Subject to the exceptions detailed in Section 1.2.21.2, Calculation of Calendar Days for Site Occupancy, guardrail construction shall be completed within 5 days of the completion of surfacing work. During this five day period, calendar days will be counted for those days on which the Contractor is performing guardrail construction or other work necessary to prepare the project for the Construction Completion inspection. If, after the five day period, the guardrail construction has not been completed, calendar days will be counted until the guardrail construction is complete.

1.2.21.9 **Conclusion of Site Occupancy**

Subject to the exceptions specified herein, assessment of Calendar Days for site occupancy will cease entirely only once, in the opinion of the Consultant, the project is ready for the Construction Completion inspection as detailed in Section 1.2.52, Construction Completion and Acceptance. Calendar Days for site occupancy will not be assessed during the period from the date of completion of the entire Work to the actual date of the Construction Completion inspection, during the completion of any deficiencies identified through the Construction Completion inspection or when the Contractor is completing repairs of pavement segregation only.

For the purposes of assessing site occupancy charges only, the construction of milled rumble strips and reclamation or restoration of borrow areas, gravel sources or haul roads will not need to be completed in considering whether or not the project is ready for the Construction Completion inspection.

1.2.21.10 **Statements, Extensions and General**

The Consultant will, on a weekly basis, prepare a statement for the Contractor showing the number of Calendar Days for site occupancy worked on the Contract during that week. In the event that the Contractor disagrees with the number of Calendar Days for site occupancy shown on the statement, he shall within one week of the date of such statement, notify the Consultant in writing of reasons for the disagreement, otherwise the number of Calendar Days for site occupancy shown on the statement shall be considered final.

An increase in the number of Calendar Days for site occupancy to complete the Work will be considered for an increase in quantities, late delivery of Department supplied materials, design changes to the project, or any other reason which in the opinion of the Consultant is outside the control of the Contractor, or could not have been reasonably foreseen by the Contractor.

If the Contractor believes there is an entitlement to an extension of the number of Calendar Days for site occupancy required to complete the Work, he shall, prior to the completion of the Work, submit a written request to the Consultant setting out the reasons for the request, justifying the number of additional days required.

1.2.21.11 **Payment**

Payment for "Site Occupancy" will be made as follows:

If the Contractor completes the Work in the exact number of days entered in the "Site Occupancy" bid item, no payment will be made.

If the Contractor completes the work in fewer Calendar Days for site occupancy than the number entered in the "Site Occupancy" bid item, a payment equal to the unit price per day as shown, multiplied by the difference between the estimated and actual number of Calendar Days for site occupancy will be made.

If the Contractor completes the Work in more than the number of Calendar Days for site occupancy entered in the "Site Occupancy" bid item, an assessment equal to the unit price per day as shown, multiplied by the difference between the estimated and actual number of Calendar Days for site occupancy will be made and charged to the Contractor. This assessment will be deducted from any monies due the Contractor.

Those provisions for Duration of Work in no way negates or mitigates the conditions of Sections 1.2.19, Adjustment of Completion Dates; 1.2.20, Failure to Complete on Time; or Section 1.2.14, Commencement and Scheduling of Work.

1.2.22 DEFAULT

1.2.22.1 **Causes And Notice**

A Contractor who:

- (i) fails to begin the Work under the Contract within the time specified;
- (ii) fails to prosecute the Work with sufficient workers and equipment, or with sufficient Material to ensure the prompt completion of the Work;
- (iii) in the opinion of the Department performs the Work unsuitably;
- (iv) neglects or refuses to remove Material, or to perform anew Work rejected as defective and unsuitable;
- (v) discontinues the prosecution of the Work;
- (vi) fails or refuses to place additional equipment on the Work in order to complete the work within the specified time and when so ordered by the Department;

(vii) fails to promptly pay his creditors for labour, services, equipment, supplies and materials used or reasonably required for use in the Work; or

(viii) fails to promptly repair any defect or failure discovered in the Work within the warranty period;

shall be deemed to be in default of the Contract.

A Contractor who is deemed to be in default of the Contract will be given notice in writing by the Department declaring and specifying the default and the Contractor shall upon receipt of the notice diligently proceed to remedy or rectify the default.

1.2.22.2 **Failure To Remedy**

If the Contractor fails to proceed diligently to remedy or rectify the default within 6 calendar days of receipt of the notice from the Department, the Department may, without violating the Contract, take the prosecution of the Work out of the hands of the Contractor and may:

- (i) appropriate or use any Material at the site of the Work to complete the Work;
- (ii) enter into an agreement with some other person for the completion of the Work;
- (iii) compel the Surety to complete the Work; or
- (iv) use such other methods as in the Department's opinion may be required for the completion of the Work.

1.2.22.3 **Costs and Claims**

All costs incurred by the Department as a result of the default, including the cost of completing the Work and repairing any defect or failure, will be deducted from any money due or which may become due to the Contractor. If the costs incurred by the Department exceed the sum which would have been payable under the Contract, then the Contractor, and Surety if any, shall be liable and shall pay to the Department the amount of the excess up to the specified amount of the security.

The Contractor shall not have any claim for compensation or damages against the Department for any stoppage or delay caused by or resulting from the prosecution of the Work having been taken out of the hands of the Contractor.

1.2.23 ANNULMENT WITHOUT FAULT OF CONTRACTOR

The Minister shall have the right at any time to annul the Contract upon giving at least 15 calendar days notice, in writing, to the Contractor, in which event the Contractor shall cease Work and shall be entitled to payment under the terms and conditions of the Contract for the Work done by him up to the time of such annulment.

The Department will reimburse the Contractor for those costs verified by the Department, which are directly chargeable to that portion of the Contract not performed by reason of annulment, and which the Department deems as justifiable.

1.2.24 SUPPLEMENTAL WORK

Supplemental work shall include work which is outside the scope or intent of the Contract.

Supplemental work may be identified by the Department at its discretion. In the event the Department wishes the Contractor to undertake supplemental work, terms and conditions

covering the completion of supplemental work will be mutually agreeable to both the Department and the Contractor and will be incorporated into the Contract by way of a separate agreement. Payment for supplemental work will be made in accordance Section 1.2.25, Extra Work.

If terms and conditions suitable to both the Department and the Contractor cannot be negotiated, the Department reserves the right to contract with others for the completion of the supplemental work.

1.2.25 EXTRA WORK

1.2.25.1 **General**

Extra work shall include work not specified in the Contract or of a class not included in the Contract but work that is required to achieve the intent or scope of the Contract.

Extra work ordered by the Consultant in writing shall be carried out by the Contractor. Extra work will not be paid for unless the Contractor receives a written order for it from the Consultant. Authorized extra work will be paid for by the Department at the unit prices in the Contract. If, in the opinion of the Consultant, there is no applicable Contract unit price, then all labour, equipment and materials must be approved by the Consultant prior to any extra work being done, and it will be paid for as detailed in the remainder of Section 1.2.25 or at the new unit prices agreed to by both the Department and the Contractor.

1.2.25.2 **Labour**

For all labour directly involved in the extra work operation, the Contractor will be paid the actual cost of labour including the wages at the scale being paid on the Contract Work, and including payments made to, or on behalf of the workers, for holiday pay, Workers' Compensation Board assessment, insurance and pension payments, plus 20 % of the total of the extra work labour account.

1.2.25.3 **Equipment**

For each piece of equipment used directly in the extra work operation, including trucks but excluding small tools, the Contractor shall receive payment:

- (i) at the rates shown in the Equipment Rental Rates Guide and Membership Roster as issued by the Alberta Roadbuilders and Heavy Construction Association; or
- (ii) for third party equipment rental accounts, at the rates invoiced by the third party, provided these rates were approved by the Consultant prior to the commencement of the Extra Work; or
- (iii) at the agreed price or prices as stated in the Consultant's extra work order.

1.2.25.4 **Equipment Rental Rates Guide and Membership Roster**

The Equipment Rental Rates Guide and Membership Roster is the latest version in effect at the time of tendering identified as "Equipment Rental Rates Guide and Membership Roster, an Alberta Roadbuilders and Heavy Construction Association Publication."

If the Alberta Roadbuilders and Heavy Construction Association (ARHCA) revises its "Equipment Rental Rates Guide and Membership Roster" before work on the Contract is

completed, the schedule containing the higher rates for a particular piece of equipment will apply.

1.2.25.5 **Purchased Material**

For all Material purchased by the Contractor, solely to perform or incorporate into the extra work, as required by the Consultant, the Contractor will receive payment:

- (i) at the agreed price as stated in the Consultant's extra work order to which no allowance will be added; or
- (ii) if there is no agreed price, at the amount shown on the supplier's invoices to which will be added 15%.

1.2.25.6 **Supervision**

For supervision required directly on the extra work operation, the Contractor will be paid the actual cost of superintendent's or foreman's wages at the scale being paid on the Contract Work, including statutory payments made to them or on their behalf for holiday pay, Workers' Compensation Board assessment, insurance and pension payments, plus 20 % of the total of the extra work supervision account.

If the supervisory personnel is also engaged on work other than the extra work, only that portion attributable to the extra work will be paid for by the Department.

1.2.25.7 **Transportation of Workers and Equipment**

The vehicles used in the transportation of the workers and small tools required exclusively for the extra work shall be considered as equipment and will be paid for on the basis as provided in Subsection 1.2.25.3, Equipment, for the period for which the vehicles are required.

The transportation of heavy construction equipment hauled or otherwise moved to the project exclusively for the extra work, or when necessary from separated points on the job to the site of the extra work, will be paid for at the applicable rates in accordance with Section 1.2.25.3, Equipment, provided that the means of transporting the equipment has been previously authorized by the Consultant.

1.2.25.8 **Payment for Extra Work**

The compensation provided in this section shall be payment in full for all charges including any and all indirect costs, overhead and profit, and for the use of small tools for which no rental is allowed.

The Contractor shall present his claim for payment for extra work before the fifteenth day of the month following that in which such extra work was performed, supported by proper vouchers giving details as to dates, quantities, rates, third party invoices and such other supporting documentation as the Consultant requires.

1.2.26 PAYMENT AND HOLDBACK

1.2.26.1 **Payment**

The total payment made to the Contractor in accordance with the Contract shall constitute full compensation for the Work completed and in place, including the furnishing of all Material, tools,

machinery, equipment, labour and work incidental thereto as well as any and all expenses incurred by reason of any cause whatever, except as otherwise provided herein.

The Department will make monthly progress payments to the Contractor for the Work completed based on estimates prepared by the Consultant.

1.2.26.2 **Holdback**

The Department will retain holdback in the amount of 10% of the value of each progress estimate.

1.2.26.3 **Alternatives To Holdback**

1.2.26.3.1 Requirements

As an alternative to retaining holdback in the amounts indicated in Section 1.2.26.2, the Department will accept an Irrevocable Letter of Credit or a Release of Holdback Bond, subject to the following requirements:

- (i) The substitution of the Irrevocable Letter of Credit or Release of Holdback Bond for holdback shall be subject to the approval of the Department.
- (ii) The Irrevocable Letter of Credit shall be provided by a Domestic Chartered Bank as listed in the Bank Act, "Schedule A, Domestic Chartered Banks", "Schedule B, Foreign Chartered Banks", or the Alberta Treasury Branch.
- (iii) The amount of the Irrevocable Letter of Credit or Release of Holdback Bond shall be 10 % of the Contract total tender amount and shall stay in force for 6 months after the specified Contract completion date.
- (iv) The Surety's written approval of the Contractor's request for use of the Irrevocable Letter of Credit shall be submitted with the request.
- (v) The Irrevocable Letter of Credit or Release of Holdback Bond shall be worded the same as the Sample in the Contract.
- (vi) Should the time to complete the Contract extend beyond the specified Contract completion date, the Contractor may be required to provide the Department with an Irrevocable Letter of Credit or Release of Holdback Bond with a revised expiry date. Where the Contractor is required to provide for this extension in time, the Contractor shall, within 14 days of being notified of the requirement, provide to the Department the Irrevocable Letter of Credit or Release of Holdback Bond with the revised expiry date.
- (vii) Sections 1.2.26.4, 1.2.26.5 and 1.2.26.6 will also apply to an Irrevocable Letter of Credit or Release of Holdback Bond used in lieu of holdback.

1.2.26.3.2 Drawing Funds

The Department will draw funds on the Irrevocable Letter of Credit or Release of Holdback Bond to cover the following:

- (i) To re-establish Contract holdback in the event that the Contractor fails to provide a required revised Irrevocable Letter of Credit or Release of Holdback Bond with an extended expiry date.

- (ii) To re-establish Contract holdback in the event that the Department requires funds to resolve deficiencies in any item noted in Subsection 1.2.26.6, Release of Holdback.

The cumulative amount of funds drawn by the Department will not exceed the specified amount of holdback that the Department would otherwise have retained up to that time.

The Department will notify the Contractor not less than 14 days before drawing funds on the Irrevocable Letter of Credit or Release of Holdback Bond.

1.2.26.4 **Increase in Holdback**

The Department may increase the amount of holdback retained by the total amount of any outstanding third party claims, deficiencies in the work or unpaid back charges.

1.2.26.5 **Reduction in Holdback**

At the request of the Contractor when accompanied with the Surety's written approval, the Department may at its discretion reduce the amount of holdback where, for acceptable reasons, remaining work cannot immediately be completed or corrected, and all applicable items in Subsection 1.2.26.6, Release of Holdback, have been met. The amount of the reduction and the revised expiry date of any Irrevocable Letter of Credit or Release of Holdback Bond shall be at the discretion of the Department.

1.2.26.6 **Release of Holdback**

After a minimum of 45 days has expired from the date of Construction Completion, the Department will release the full amount of the holdback to the Contractor provided that all of the following have occurred:

- (i) All Work has been completed and accepted by the Department and the Contractor has complied with all the terms of the Contract excluding his obligations under Section 1.2.53, Contractor's Warranty and Final Acceptance.
- (ii) There are no outstanding third party claims filed with the Department.
- (iii) The final payments have been calculated by the Consultant and accepted by the Department and there is no recovery required from the Contractor on any account, including overpayment, liquidated damage, or penalty.
- (iv) The Department has received the Workers' Compensation Board clearance, and a Statutory Declaration satisfactory to the Department indicating "No Exceptions."
- (v) The Contractor has provided the Department with written confirmation that the Contractor is in full compliance with all environmental approvals, permits, licences and/or written authorizations for the project.

If the Contractor fails to meet his obligations with respect to any of these items, the Department may use holdback funds to rectify the deficiency, in accordance with the terms of the Contract and the Public Works Act.

1.2.27 AUTHORITY OF THE DEPARTMENT

The Department will be the ultimate judge of the Work and Material and its decision on all issues regarding quality and quantity, or as to the meaning or intention of the Contract shall be final. Full compensation will not be made for any Work performed, nor Material or thing provided, until the Department has accepted such Work or Material. Submission of written progress or final estimates by the Consultant shall be considered acceptance for payment purposes only.

1.2.28 AUTHORITY OF THE CONSULTANT

The Consultant will provide administration of the Contract as described in the Contract Documents.

The Consultant will be both the initial interpreter of the requirements of the Contract Documents and the initial judge of the acceptability of the Work. Claims and other matters in question relating to the performance of the Work or the interpretation of the Contract Documents shall be referred initially to the Consultant in writing for decision which he will give in writing within a reasonable time. Notwithstanding that the Consultant is not a party to this Contract, the Contractor agrees that there shall be no duty on the Consultant to observe or discover defects or deficiencies in the Work but only to rule on such matters concerning the performance of the Work as may be brought to his notice or as he may observe. Should the Contractor hold decisions of the Consultant to be at variance with the Contract Documents, or to involve changes in Work already built, fixed, ordered or in hand in excess of the Contract, or to be given in error, he shall notify the Consultant before proceeding to carry them out. In the event of the Consultant and the Contractor failing to agree as to such excess or error and the Consultant deciding such disputed Work should be carried out, the Contractor shall act according to such decision and pursue the matter further through the process detailed in Section 1.2.54, Claims and Dispute Resolution.

The Consultant will review and accept written warranties and related documents required by the Contract and provided by the Contractor.

Nothing contained in the Contract Documents shall create any contractual relationship between the Consultant and the Contractor, his subcontractors, any manufacturer, fabricator, supplier or distributor, or other agents, employees or other persons performing any of the Work.

Any reference to the Consultant in any provisions in the Contract Documents, excluding or limiting the Consultant's duty, responsibility, or liability, shall be deemed to include every director, officer, agent, and employee of the Consultant, and any persons shall be entitled to the benefit of all such exclusions or limitations of liability.

1.2.28.1 **Orders of the Consultant**

The Consultant will be the Department's representative during construction and until the Contractor has been provided with a Construction Completion Certificate indicating the Department's acceptance of the Work and the commencement of the Warranty period. The Consultant will have authority to act on behalf of the Department to the extent provided in the Contract Documents.

All orders and instructions given at any time by the Consultant with respect to the Work, or the conduct thereof, shall be promptly and efficiently performed and complied with by the Contractor to the satisfaction of the Consultant.

Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed", "as approved", or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper" or "satisfactory" or adjectives of like effect or import are used to describe requirement, direction, review or judgement of the Consultant as to the Work, it is intended that such requirement, direction, review or judgement will be solely to evaluate the Work for general compliance with the design concept for the Project (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall never indicate that the Consultant has authority or responsibility to supervise or manage performance of the Work or authority to undertake responsibility contrary to the provisions of this Contract.

1.2.28.2 **Construction Methods and Equipment**

The Consultant will not be responsible for construction means, methods, techniques, sequences or procedures, or for superintending the Contractor's Work or for the Contractor's failure to perform the Work in accordance with the Contract Documents or the Contractor's compliance with good construction practice or for the acts or omissions of the Contractor, his subcontractors, any manufacturer, fabricator, supplier or distributor, or their agents, employees or other persons performing any of the Work. All of these matters will be the responsibility of the Contractor. However, the Consultant has a duty to take appropriate action to bring the Contractor into compliance with the Contract.

1.2.28.3 **Defective Work**

The Consultant will have authority to reject work which in his opinion does not conform to the requirements of the Contract Documents. Whenever he considers it necessary or advisable, he will have authority to require special inspection or testing of work whether or not such work then be fabricated, installed or completed. However, neither the Consultant's authority to act nor any decision made by him either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the Consultant to the Contractor, his subcontractors, any manufacturer, fabricator, supplier or distributor, or their agents, employees or other persons performing any of the Work.

When any defective work, whether the result of poor workmanship, damage through the Contractor's carelessness or use of defective material supplied by the Contractor, is found to exist prior to the date of Construction Completion, the Contractor at his expense, shall promptly remove, replace or otherwise remedy the defective work, to conform to the Specifications in a manner acceptable to the Consultant.

Should the Contractor fail to comply promptly with any order given by the Consultant under this Section, the Department may cause the defective work or material to be remedied, removed or replaced, and deduct the costs incurred from any money due or to become due to the Contractor.

1.2.28.4 **Unauthorized Work**

Any work done or material supplied by the Contractor which is beyond the lines, grades, or descriptions shown on the Plans and Specifications or established by the Consultant, or without required notification, will be considered as unauthorized and may not be paid for.

Upon order of the Consultant, unauthorized work or material shall be remedied, removed or replaced by the Contractor at his expense, in a manner acceptable to the Consultant.

Should the Contractor fail to comply promptly with any order made under this Section, the Department may cause unauthorized work or material to be remedied, removed or replaced, and deduct the costs incurred from any money due or to become due to the Contractor.

1.2.29 AUTHORITY OF THE CONSULTANT'S REPRESENTATIVE

The Consultant's Representative is authorized to inspect all Work done and Material furnished. Such inspection may extend to any part of the Work, and to the preparation, fabrication or manufacture of the Material to be used.

The Consultant's Representative is placed on the Work to keep the Consultant and Department informed as to the progress of the Work and as to the manner in which it is being performed. He has the authority to reject defective Material and Work and to prohibit any work method or procedure which will result in a finished product which will fail to meet the standards required by the Specifications or Plans.

The Consultant's Representative is not authorized to alter or waive provisions of, nor to issue instructions contrary to, the Specifications or Plans. He is not authorized to give final acceptance of any portion of the Work.

The Consultant's Representative will not act as foreman or superintendent for the Contractor.

The Consultant's Representative will exercise such additional authority as may from time to time be delegated to him by the Consultant.

1.2.30 PRESERVATION OF TRAFFIC MARKINGS

On projects that have existing paint and traffic markings, the chainage of the end points of no passing zones shall be recorded in a field book. The Contractor shall provide this information to the Consultant prior to commencing paving operations and the field book will become the property of the Department after completion of the Work.

1.2.31 STAKES, MARKS AND ENGINEERING TESTS

When the Consultant provides to the Contractor summaries of engineering test results taken on or about the Work by the Consultant, the Contractor must satisfy himself as to the meaning and correctness of the engineering test results.

The Contractor shall not take advantage of any apparent error or omission in the Plans, Specifications, stakes, marks, engineering tests, or other measurements done or provided by the Consultant, but shall immediately bring such apparent error or omission to the attention of the Consultant. The Consultant will make corrections and interpretations as may be necessary for the fulfillment of the intent of the Plans and Specifications.

The Department will consider claims for payment of the Contractor's documented extra costs which have resulted from incorrect stakes, marks or engineering tests performed by the Consultant, which neither the Contractor nor the Consultant has recognized in time to prevent the occurrence of such extra costs or which have been drawn to the attention of the Consultant by the Contractor but have not been corrected in a reasonably prompt time. Such claims must be made in accordance with Section 1.2.54, Claims and Dispute Resolution.

1.2.32 CONTRACTOR'S PROJECT SUPERVISOR

The Contractor shall maintain a competent project supervisor on the Work who shall be present on the site of the Work during its progress. The project supervisor shall be considered the lawful representative of the Contractor, shall be fully authorized to act for him for all aspects of the Work, including the work of all subcontractors/owner operators, and shall receive such communications as may be given by the Consultant.

1.2.33 COMMUNICATIONS

While communication of any notice, order, direction, consent, offer, or other communication may be given in any reasonable manner, it is agreed that important communications between the Contractor and the Department or Consultant, shall be in writing.

Any important communication required or permitted to be given by the Department or Consultant to the Contractor may be personally delivered to the Contractor or his Project Supervisor, or delivered or mailed to the office of either, and shall be deemed to have been received on the day it was delivered or on the fifth calendar day after it was mailed.

Any important communication required or permitted to be given by the Contractor to the Department or Consultant may be personally delivered, or delivered or mailed to its respective office, and shall be deemed to have been received on the day it was delivered or on the fifth calendar day after it was mailed.

Written communications may also be given by FAX transmission and will be deemed to have been received if a FAX transmittal confirmation report can be produced showing receipt at the proper location.

Communications will be sufficient which express, in general language and without detail, the matters communicated, and no objection shall be taken to the form thereof.

1.2.34 WAGES AND HOURS OF WORK

All persons who perform work or labour in the construction of the Work shall be paid wages as are generally accepted as current for comparable workers in the district in which the Work is performed. No workers shall be required to work for more than the number of hours authorized by law in any day, week or month, except for the protection of life or property, or other such emergency. If any dispute arises as to what is a generally accepted rate of wages, or the number of hours of work, the matter will be determined by the Department, whose decision shall be final.

1.2.35 PAYMENT FOR LABOUR AND MATERIAL

The Contractor shall promptly pay, or ensure that prompt payment is made, for all labour, services, equipment, supplies and Material used for, on or about the Work, including any sum due from the Contractor, any subcontractor or any person, for the labour or services of any subcontractor, foreman, worker or other person, or for the use of plants, machinery or camp supplies. In the event of failure by the Contractor at any time to do so, or if the Department has reason to believe that such payments will not be promptly made, the Department may retain out of any money due on any account to the Contractor from the Department such amount as the Department may deem sufficient to satisfy the same, giving him notice of such claims, requesting him to settle them directly and withholding the balance until the claims are satisfied. The Department may pay directly to any claimant such amount as the Department determines is owing, rendering to the Contractor the balance due after deducting the payments so made.

When the liabilities of the Contractor under the Contract exceed the money owed to him on any account by the Department, the Contractor or the Surety shall pay all such claims as are certified by the Department to be correct.

1.2.36 NOTICE OF CLAIMS INFORMATION

The Public Works Act (Alberta) applies to this project. The Builders Lien Act (Alberta) does not apply. For the purposes of interpreting the "Notice of Claim" provisions under Section 14 of the Public Works Act, the claim shall be deemed to be a claim under section 14(2) in which the notice of claim shall be sent by registered mail not sooner than 30 days nor later than 90 days after the last day on which the labour, equipment, material or services were provided.

The Contractor shall post, at his project field office or other conspicuous location accessible to employees, subcontractors, truckers, material suppliers, et cetera, copies of the following:

- Standard Claim Form
- Bond Notice
- Section 14 of the Public Works Act regarding Notice of Claim
- The notice entitled "Notice to Claimants"

which shall be protected in a legible condition for the duration of the project. Copies of these documents will be provided to the successful Bidder prior to execution of the Contract.

1.2.37 RECORDS OPEN FOR INSPECTION

The Contractor's payrolls, time records, invoices, statements, and any other financial documents, data or records which may in the Department's opinion have any relation to the Contract shall be at all times open for inspection and copying by the Department. The Contractor shall assist the Department in every possible way in this inspection.

1.2.38 FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT

Any information collected or generated by the Contractor in the course of the performance of the Contract is the sole property of the Department and it is subject to the Freedom of Information and Protection of Privacy Act as well as all other legislation and regulations governing the management of information and records.

1.2.39 LABOUR ACCOMMODATION

Where accommodations are supplied by the Contractor for workers engaged in the Work under the Contract, they shall be reasonably satisfactory, and where necessary, the Contractor shall make provisions for proper housing, feeding, sanitary facilities and medical attention.

1.2.40 TRUCK WEIGH SCALES

When payment by weight is specified, the Contractor shall provide silo scales or platform scales and a scale house.

The use of a particular silo scale shall be subject to the approval of the Consultant. Platform scales shall be of sufficient length and capacity to accommodate in a single loading any truck, including pups or trailers that are used. Scale houses shall be weatherproof, heated and large enough to provide reasonable working accommodations for the scaleperson and required

furnishings. The scale house shall have sufficient windows to provide the scaleperson with an unobstructed view of the entire scale.

All weigh scales must be certified by Measurement Canada, an agency of Industry Canada. The most recent certificate for a scale shall be displayed at all times. In the event a certified scale is modified in any way, it must be re-certified prior to being used.

Prior to use on this Contract and in each instance that a certified weigh scale is moved and set up, the Contractor shall test the weigh scale using the procedures established by Measurement Canada. This test shall be performed to ensure that the weigh scale conforms to the current standards required by Measurement Canada. The Consultant must be in attendance during the entire testing process. The Contractor shall complete a scale accuracy inspection form to include all applicable test and scale information and provide a copy to the Consultant.

The approach ramps shall be rut free and level for a minimum distance of 3 m from each end of the scale.

Any truck, including pups or trailers, shall have all wheels and axle combinations completely on the scale during taring and final weight measurements. The Consultant may, when he deems it necessary, verify the accuracy of the weigh scale at any time and the Contractor shall provide all test weights, equipment, facilities and operating staff required to verify the weigh scale and shall cooperate fully in the verification process.

The Contractor will not be permitted to use grain elevator scales or inspection station scales in lieu of testing the weigh scale. The Consultant may, when he deems it necessary, direct that haul trucks be weighed on inspection station scales for verification purposes.

The Consultant will provide a scaleperson at the Contractor's weigh scales for the purpose of weighing materials. The weight so determined shall be the basis for payment.

The Consultant will not operate controls for loading material into trucks. This shall be done by the Contractor.

All costs associated with providing and installing the truck weigh scales and scale house and the testing or certification of the weigh scales, shall be the responsibility of the Contractor and no separate payment will be made.

1.2.41 HIRED TRUCKS

The Contractor shall ensure that all privately owned trucks hired for the haul of granular and earth materials shall have Alberta Class 1 registration in accordance with the Traffic Safety Act.

Each truck used for hauling shall be equipped with a 2-way radio with which they shall communicate hauling information with the Consultant's checker during unloading operations. Additionally, the Contractor shall supply compatible, portable 2-way radios to the gravel checkers for the duration of the haul. The Contractor shall ensure that all radio sets are maintained in proper working order and that power packs or batteries for portable sets are supplied as needed.

1.2.42 DUE CARE, CLAIM SETTLEMENT AND HOLD HARMLESS

The Contractor shall indemnify and hold harmless the Minister, his employees and agents from any and all claims, demands, actions and costs whatsoever (including legal costs on a solicitor-

client basis), which may arise directly or indirectly out of any act or omission of the Contractor, his employees, agents or sub-contractors, in the performance of the Work.

The Minister shall indemnify and hold harmless the Contractor, his employees and agents from any and all claims, demands, actions and costs whatsoever (including legal costs on a solicitor-client basis) which may arise directly or indirectly out of any act or omission of the Minister, his employees or agents in the performance of the Work.

Such hold harmless shall survive the Contract.

The Contractor shall ensure that his forces and those of all subcontractors use due care to ensure that no person is injured and no person's property damaged in the prosecution of the Work. Without restricting the generality of the foregoing, the Contractor shall, at his own expense, make such provisions as may be necessary to avoid any such injury or damage.

All claims for injury, loss or damage arising in connection with the Work will be referred to the Contractor who shall deal with each claim in a fair and reasonable manner. The Contractor shall respond to each claimant in writing, setting out the Contractor's position with respect to the claim.

It is the Department's intent that all claimants fully understand the claims resolution process. To assist the claimant in this regard, the Department has available an information pamphlet outlining the process. When contacted by a claimant, the department will provide a copy of the pamphlet to the claimant and then refer the claim to the Contractor. In situations where the Contractor is contacted by a claimant directly, the Contractor shall immediately advise the claimant that a pamphlet outlining the claims resolution process is available from the local Alberta Transportation Office. The Contractor shall then deal with the claim as described above.

If the Contractor settles the claim, he shall provide the Department with written proof that the matter has been resolved. If the Contractor is unable to settle the claim or considers the claim to be invalid, he shall provide the Department with written reasons for rejecting the claim.

The Department will refer unresolved damage claims of less than \$2000.00 to an independent adjuster, who will decide on the validity and value of the claim. The adjuster will be appointed by the Department.

If the adjuster decides that the claim is unfounded, the Department will bear the cost of the assessment. In all other cases, the Contractor shall pay the adjuster's fee and the claim and provide the Department with written proof that he has done so.

The Department may retain from money due the Contractor the amount of each claim pending its resolution, including payment to the claimant and the adjuster, where applicable.

1.2.43 PRECAUTIONS AS TO FIRE

The Contractor shall at his own expense take special precautions to prevent and extinguish uncontrolled fire occurring on or about the Work.

1.2.44 OCCUPATIONAL HEALTH AND SAFETY ACT

The Department assigns prime contractor responsibilities, as specified in the Occupational Health and Safety Act, to all parties with which it enters into contracts and agreements. On

highway and bridge construction projects this would typically include the Contractor, the Consultant, other Contractors, and various Utility Companies.

During the course of the project, the work sites of the Contractor, Consultant, other Contractors, and Utility Companies may be separated by time and/or space or, may be in the same general vicinity or may be adjacent, depending on the circumstances on the project at any given point in time. It is a requirement of all Department contracts and agreements that the Contractor, Consultant, other Contractors and Utility Companies working within the project limits, coordinate their respective activities, as outlined herein, to ensure a safe project. However, it is not the Department's intent that any of these parties be responsible to ensure that the other parties, or the other parties' subcontractors, have adequate health and safety process for their respective activities.

1.2.44.1 **Prime Contractor**

1.2.44.1.1 Designation of Prime Contractor

The Contractor shall familiarize himself, his staff and his subcontractors with the terms of the Occupational Health and Safety Act and Regulations thereunder to ensure complete understanding respecting the responsibilities given and compliance required. The Contractor acknowledges that he is and assumes all of the responsibilities and duties of, the Prime Contractor as defined by the Occupational Health and Safety Act, and that he shall, as a condition of the Contract, comply with the Occupational Health and Safety Act and the Regulations thereunder.

1.2.44.1.2 Coordinating Activities

The Contractor shall coordinate his activities on the project with those of the Consultant, other contractors and the Utility Companies. When the Consultant and/or other contractors and Utility Companies are conducting activities within the project limits the Contractor shall liaise with the Consultant and/or Utility Company as the case may be, and jointly develop a health and safety system or process for the affected worksites. The health and safety system or process agreed to by the parties must be in writing. Any changes required to the health and safety system must be agreed to by all affected parties and must also be in writing. Documenting the written health and safety system or process, including any required changes shall be the responsibility of the Contractor.

For the purposes of coordinating activities, the contact persons for the Contractor, Consultant, other contractors and Utility Companies will be identified at the project preconstruction meeting. The responsibility to initiate "contact" for coordinating activities shall reside with the party entering a project or site on which work has commenced. This responsibility to initiate contact shall apply regardless of whether or not the worksites are separated by time and/or space, are in the same general vicinity or are adjacent.

1.2.44.1.3 Resolving Disputes Related to Coordination of Activities

If the parties cannot agree on a process or system that addresses the safety concerns of all parties, work at the affected worksites shall cease and this matter shall be referred to the Consultant. However, if the Consultant is one of the parties involved in the dispute, the matter shall be referred to the Department. The Consultant or Department as applicable, after review, will decide which party shall be responsible for resolving the disputed safety issue. Such decision shall be final and binding upon all parties.

1.2.44.1.4 Responsibility for Subcontractors/Owner operators

The Prime Contractor shall, to the extent required by the Occupational Health and Safety Act, establish and maintain a Health and Safety system or process to ensure compliance to the Act by his subcontractors/owner operators.

1.2.44.2 **Worksite Hazards**

The Contractor has the responsibility to identify worksite hazards and shall develop operational occupational safety policies, procedures and plans which are specific to the Work to ensure the safety of every person at the construction site and the public traveling through the site. When requested by the Consultant, the Contractor shall provide copies of these safety policies, procedures and plans prior to the commencement of the Work and a copy shall be available on site at all times.

If Alberta Employment, Immigration and Industry, Workplace Health and Safety conduct a worksite inspection that results in "orders" being issued to the Contractor, the Contractor shall immediately supply copies of these orders to the Consultant.

The Consultant may suspend work in accordance with Subsection 1.2.17.1, Authority to Suspend Work, in situations with recognized imminent danger or when the Contractor fails to comply with safety orders issued or fails to rectify previously identified worksite hazards. The Consultant's interpretation of a worksite hazard will be considered as final in all cases.

1.2.44.3 **Accident Investigations**

In the event of an injury or accident as defined by Workplace Health and Safety Regulations, involving employees of the Contractor or his subcontractors, the Contractor shall conduct an accident investigation in accordance with the Occupational Health and Safety Act. In addition, the Contractor shall supply a copy of this investigation report to the Department and the Consultant within 72 hours of the occurrence.

1.2.44.4 **Safety Meetings**

While the Work is in progress, the Contractor's project supervisor shall conduct safety meetings prior to the commencement of Work on each major work phase or monthly whichever occurs first. The Consultant or his designate shall be invited to attend.

1.2.44.5 **Scaffolding, Falsework and Temporary Protective Structures**

All scaffolding, falsework and temporary protective structures shall be designed for the loads they are required to carry. They shall be engineered and designed for safety in all respects, and shall meet the requirements of the Occupational Health and Safety Act. Drawings shall be stamped by a Professional Engineer, registered in the Province of Alberta. The Contractor's site superintendent (Project Supervisor) shall verify all components are as shown on the drawings before use. A copy of these drawings must be retained on site at all times the system is in use.

1.2.44.6 **Subcontractors/Owner Operators**

The Contractor shall, to his satisfaction, ensure that any subcontractors/owner operators are able to comply with all health and safety requirements before commencing work.

1.2.45 CLEAN PREMISES

During the course of the Work the Contractor shall keep the premises in a neat and tidy condition satisfactory to the Consultant. The Contractor shall, upon the completion of the Work, remove all temporary structures and clear away all rubbish and surplus and waste Material remaining on or about the Work and leave the premises in a neat and tidy condition satisfactory to the Consultant. If these requirements are not met, the Consultant may give written notice to the Contractor requiring him to remedy the situation. If the Contractor fails to remedy the situation within 14 days of receipt of the notice, the Department may cause the situation to be remedied and may deduct the cost thereof from any money owing to the Contractor.

The Contractor shall be responsible for the disposal of all debris, unneeded or unsuitable materials and components from the demolition, modification or repair of existing bridge structures. Disposal shall be done in a manner suitable to the Consultant. Written approval from the owner of the disposal site shall be submitted, and evidence of his acceptance of the disposal site cleanup will be required.

1.2.46 DAMAGE TO WORK

The Work shall be at the risk of the Contractor and he shall bear all loss or damage arising from any cause, excepting acts of the Queen's enemies, which may occur to the Work prior to the date of Construction Completion. If any such loss or damage occurs before the construction completion inspection, the Contractor shall at his own expense immediately repair, restore and re-execute the lost or damaged Work so that the Work, or the portions thereof, shall be completed within the specified time.

1.2.47 CONTRACTOR'S ACCESS TO THE SITE

Access to the site of the Work and hauling materials and equipment to the site shall be the Contractor's responsibility. The Contractor shall ensure that adequate access for all activities is provided and maintained until Contract completion. He shall identify the haul roads he proposes to use, and obtain the necessary approvals in writing from the road authority. Haul of equipment and materials to the job site shall be in accordance with Specification 4.5, Hauling.

The Contractor is also advised that the approach fills for major bridges are normally constructed to a subgrade elevation lower than the "Finished Roadway" elevation indicated on the Drawings. It is the Contractor's responsibility to construct ramps or other facilities, if vehicular access to the bridge deck is required for his operation.

No claims for extra costs or time extensions will be considered on account of access conditions, or imposed road bans or load restrictions.

1.2.48 DEMURRAGE AND DAMAGES

The Contractor shall be responsible for the prompt loading, unloading and delivery of all Materials for the Work and shall be responsible for any demurrage and storage charges. In the event of demurrage or damage charges being paid by the Department, that amount shall be deducted from money owing to the Contractor.

1.2.49 SAFEGUARDING UTILITY INSTALLATIONS

1.2.49.1 **Contractor's Responsibility**

The Contractor shall assume full responsibility for safeguarding all existing and relocated utility installations during the progress of the Work.

"Utility installations" shall mean:

Utilities and facilities which are located on, in or near the right-of-way and which may be affected by the construction, and shall include but not be limited to pipelines, drainage works, irrigation works, water works, sewage works, power facilities, telecommunication facilities, cable facilities and related appurtenances.

While the Department and Consultant make every effort to collect and present complete details concerning utility installations, no responsibility will be assumed by the Department or Consultant for the correctness and completeness of its information, and the Contractor shall have no claim on that account.

1.2.49.2 **Liaison and Location**

The Contractor shall be responsible to ensure that all utility installations are located and clearly marked on the ground before commencing his construction operations. The Department or Consultant may provide information respecting the existence of known utility installations, such as power, telephone, pipeline, coaxial or fibre-optic cables or other utilities. However, the Contractor shall be responsible for contacting all affected utility owners or operators to determine the existence and location of all utility installations, maintaining liaison with the utility owners or operators concerning the adjustment of all utilities and coordinating his operations in compliance with Section 1.2.18, "Hindrances and Delays".

The Contractor is advised that the marking of Department-Owned underground utilities is not available through the Alberta One Call system and the Department assigns the Contractor as the owner's designate. The Contractor shall arrange to locate all buried utilities where the potential for conflict exists within the project limits.

Payment for the location of Department-Owned underground utilities will be made in accordance with Section 1.2.25, Extra Work.

Payment for the location of non-Department owned underground utilities will be made in accordance with Section 1.2.25, Extra Work, provided that the underground utility is not a member of the Alberta One Call system, the utility has not been identified in the Contract, the Utility Company does not provide locates at their own cost, and the Contractor is carrying out Work as defined in Subsection 1.1.20, Work, of Specification 1.1, Definitions.

1.2.49.3 **Precautionary Measures**

The Contractor shall take all precautionary measures as may be necessary when working over or adjacent to utility installations whether above or below ground and shall control his equipment and method of construction to prevent damage to any utility and its appurtenances.

Under no circumstances shall the Contractor carry out any construction operations over or adjacent to any utility until the required adjustments and protection as required for the proposed construction have been completed. Additionally, he shall provide at least 48 hours notice to the utility owner or operator in advance of commencing his construction operations in that area.

After completion of the utility work by the utility owner or operator, the Contractor shall continue to work in close liaison with the utility owner or operator and, if the utility owner or operator so requires, ensure that a representative of the affected utility owner or operator is present at all times during active equipment operations at that location.

The Contractor shall ensure that no equipment crosses or operates over or under any utility installation at locations other than where required protection has specifically been provided, and he shall work in close cooperation with the utility owner or operator in the execution of the Work. When construction is involved in the vicinity of any unprotected utility installation, the Contractor shall exercise extreme caution to ensure that the utility installation is not damaged by the construction equipment or applied loads. When haul road or equipment crossings are required at locations other than where the Department has specifically arranged for the crossing, it shall be the Contractor's responsibility to determine, provide and install any protective works necessary and to observe any other precautions which are required.

The Contractor shall be fully responsible for obtaining temporary utility crossing agreements in borrow and borrow haul road areas. There will be no separate or additional payment made for compliance with such crossing agreement requirements.

1.2.49.4 **Work in the Vicinity of Utilities**

The Contractor shall perform work in the vicinity of utility facilities in accordance with the following requirements. Any known additional specific requirements for work in the vicinity of utilities and coordination with the owners and/or operators will be listed in the special provisions under the particular utility.

1.2.49.4.1 Telephone Facilities

When there are telephone facilities which are affected by the Work, the applicable telephone company may carry out the required relocation of their facilities concurrently with the construction operations.

In those areas where it is not immediately feasible to relocate the buried cable to the final location, the telephone company may temporarily place a cable along the right-of-way boundary and bury it upon completion of grading operations.

1.2.49.4.2 Power Lines

1.2.49.4.2.1 General

When there are power facilities within the limits of this project, alterations to the facilities will be carried out by the applicable power company concurrently with the grading operations.

The Contractor, in undertaking any work near existing power lines, shall comply with the Regulations under the Electrical Protection Act.

1.2.49.4.2.2 Additional Clearing for Power Line

Prior to the commencement of power line relocation, the Contractor shall first carry out the necessary right-of-way clearing. The clearing for power lines may also include clearing an additional strip (up to 6 m wide) immediately adjacent to the right-of-way, payment for which will be made at the applicable unit price bid for "Clearing" or "Clearing and Timber Salvage." When the Contract does not contain bid items for clearing or clearing and timber salvage, any required clearing will be considered incidental to the Work. It shall be the Contractor's responsibility to

maintain liaison with the power company to ensure that the necessary land clearances have been arranged.

1.2.49.4.3 Pipelines

1.2.49.4.3.1 General

The companies named within the special provisions have pipelines located within the limits of this project. Any adjustment work will be carried out by the Pipeline Owner/Operator concurrently with the construction operations.

When the magnitude and degree of complexity of the adjustments required, prevents the Contractor from working in the vicinity of a pipeline, the Contractor shall arrange his operations clear of those pipelines until the required adjustments are completed and permission to construct in their vicinity is received.

The Contractor shall not have any claim for compensation or damages against the Department for any stoppage, delays, inconvenience or damage sustained by him due to any interference from the pipelines, or the operation of moving them.

1.2.49.4.3.2 Precautionary Measures to be Taken when Working in the Vicinity of Pipelines

Prior to the commencement of construction operations, the Contractor shall review the project with representatives of each pipeline company and the Consultant to determine the location and specifics of each pipeline within the project limits. Upon completion of this step the Contractor may begin his operations, and shall carry out all work in the vicinity of pipelines in accordance with the following precautionary measures.

- (i) The Contractor, being fully aware of the location of all pipelines, shall mark the location of the same so their positions are readily identifiable to all work forces.
- (ii) Under no circumstances shall work be commenced within 30 m of any pipeline until the required adjustments (if any) have been completed and a written crossing agreement has been received from the affected company.
- (iii) The Contractor shall contact the company representative 72 hours prior to commencing construction operations within 30 m of a pipeline so arrangements may be made to have a company representative or his delegate present during the period machinery is being employed within 30 m of a pipeline. Absolutely no work shall be undertaken within these limits until a company representative is present at the site and has authorized the same.
- (iv) No operations involving the use of machinery shall be commenced within 5 m of a pipeline until the line has been hand exposed, its location accurately referenced, and any required protection is put in place and/or adjustment to the pipeline is complete. The exposure and backfilling of the pipelines shall be undertaken by the Contractor under the direct supervision of the Consultant and the pipeline company's representative.

The exposure and backfilling of pipelines will not be paid for separately, but shall be included in the unit prices for the applicable classes of excavation.

- (v) If the Contractor proposes to move any construction equipment across the pipeline right-of-way prior to the commencement of construction operations, the Contractor shall use timbers or a pad of earth if the pipeline company so desires or the Consultant so directs.

This protection shall be constructed to specifications established by the pipeline company and the Consultant.

All labour, equipment, materials and incidentals as may be required for the protection of a pipeline and the safe execution of work, will not be paid for separately but shall be included in the applicable bid items contained in the tender.

- (vi) Clearing required within 30 m of a pipeline shall be carried out using suitable hand operated tools, and burning or burial of debris within 30 m of a pipeline is strictly prohibited. The method of removal and disposal of the debris shall require the approval of the Consultant.

This work will be paid for at the applicable unit price bid for "Clearing" or "Clearing and Timber Salvage" and no separate or additional payment will be made. When the Contract does not contain bid items for clearing or clearing and timber salvage, any required clearing will be considered incidental to the Work.

- (vii) The Contractor shall not store, park or drive any equipment, materials and/or vehicles over or along any pipeline right-of-way except as reasonably necessary in the actual construction of the roadway.
- (viii) Notwithstanding the foregoing, the Contractor shall conduct his operations in the vicinity of all pipelines in accordance with the Pipeline Act of Alberta, the National Energy Board Regulations and other related legislation.

1.2.49.4.3.3 Pipeline Accidents

The Contractor is advised that in the event of a pipeline accident, all work is to cease immediately and he is to contact the Pipeline Company involved as well as the local area office of the Alberta Energy and Utilities Board (AEUB).

1.2.49.4.4 Coordination with Irrigation Authority

- (a) The Contractor shall coordinate closely with the irrigation authority at all times. The Contractor shall not interrupt or interfere with the irrigation flow during irrigation season without prior agreement of the Irrigation authority.
- (b) In general, construction which will interfere with normal seasonal irrigation flow shall be undertaken only during the off irrigation season. The normal irrigation season is from May 1st to September 30th, both dates approximate. Allowance should be made for spring floods and for drain-down time in the fall.
- (c) The Contractor shall remove, prior to spring runoff, any crossings constructed during the off-irrigation season which will interfere with normal irrigation flow.
- (d) When work is undertaken in the vicinity of irrigation installations, the Contractor shall take all precautionary measures as may be necessary and shall control his equipment and method of construction to prevent any damage to the irrigation installations. In the event of damage, the Contractor shall immediately, at his own expense, repair and restore to its original condition any installation so damaged.

1.2.49.4.5 Highway Street Lighting

When the Contract contains a street lighting relocation and/or installation component, the Contractor shall coordinate construction activities with the applicable utility owner/operator.

When there are existing street lighting facilities within the right-of-way which are to be revised or added to by other forces, the Contractor shall liaise with the other forces and the applicable Utility Company to ensure that there are no undue delays to the scheduling. Particular care shall be taken to ensure that the required underground electrical conduit as shown on the drawings is installed in a timely manner and that the underground electric cable and pole bases are installed by the other forces in advance of the final embankment finishing.

To facilitate grading operations and conduit installation, it may be required that the power supply be provided via temporary overhead power lines while the existing underground power cables are disconnected. Procedural arrangements for the provision of temporary overhead power service and detour lighting will be made with the Utility Company by the Consultant.

1.2.49.4.6 Railway Crossing Construction

1.2.49.4.6.1 General

When any work is undertaken within the limits of the railway right-of-way including, but not limited to, the construction of new crossings, the rehabilitation of existing crossings, or haul of embankment construction material across the railway tracks, the Contractor shall coordinate his operations with the railway company and shall ensure that the following precautionary measures are observed.

- (a) Prior to commencing equipment operations within the railway right-of-way, the Contractor shall provide 3-weeks notice to the Track Maintenance Supervisor of the applicable railway company as listed in the special provisions.

The Contractor shall determine from the railway company possible additional measures which may be required for the protection of their personnel and facilities, including any supplementary insurance coverage beyond that stipulated in Section 1.2.10, Insurance. The cost of this insurance coverage will not be paid for separately, but shall be considered to be included in the applicable unit prices bid.

- (b) At the discretion of the Track Maintenance Supervisor, flagperson(s) will be employed to protect the trains and operating equipment. Normally the railway company will provide the flagperson(s) upon receipt of 3-work days notice to the Track Maintenance Supervisor. If a flagperson is required and the railway company does not provide one, the Contractor shall supply flagperson(s) meeting the railway company's requirements; some additional training may need to be coordinated with the Track Maintenance Supervisor. Regardless of who supplies the flagperson, the Department will pay the cost of the flagperson(s).

The Contractor shall schedule and coordinate flagging requirements with the applicable railway company on a daily basis. On a weekly basis, the Contractor shall submit a report to the Consultant containing the following information on the previous week's activities:

- The number of hours per day the Contractor requested flagging by the Railway due to anticipated work within the railway's specified minimum "clearance box";
- The number of hours per day the Railway Company provided flagging;

- (c) The crossing shall only be used by rubber-tired equipment.
- (d) A temporary mat shall be placed over the rails to facilitate the movement of tracked equipment.
- (e) The railway shall be maintained free of dirt, debris and obstructions at all times.
- (f) The crossing shall not be used for other than the purpose herein provided.
- (g) The Contractor shall determine the exact location and depth of any underground railway signal or telecommunication cables prior to commencing construction operations. These cables shall be located by means of hand digging by the Contractor's forces under direct supervision of a representative of the railway company.

No extra payment will be made or charges allowed for work done in connection with locating the cables. Additionally, the Contractor shall be held wholly and solely responsible for any damages to these cables that may be attributed to his operations.

- (h) The Contractor shall be fully responsible for his work operations adjacent to the rail line when working within the railway right-of-way and indemnify and hold harmless the Department in accordance with Section 1.2.42, Due Care, Claim Settlement and Hold Harmless.

1.2.50 ENVIRONMENTAL MANAGEMENT

1.2.50.1 **Environmental Legislation, Regulations, Approvals, and Permits**

The Department will obtain the environmental approvals, permits, licences, and/or authorizations required for the tendering of the project.

The Contractor shall familiarize himself with all applicable federal and provincial legislation and regulations concerning environmental protection and shall conduct his activities in accordance with such legislation and regulations, including, but not limited to, the provincial Environmental Protection and Enhancement Act and Water Act, and the federal Fisheries Act and Navigable Waters Protection Act.

The Contractor shall comply with the conditions of all environmental approvals, permits, licences and authorizations issued for the project that pertain to the Contractor's work. The Contractor shall obtain any further environmental approvals, permits, licences and/or authorizations for his temporary works as may be required for the Contractor's work.

The Contractor shall provide the Department with written confirmation of his full compliance with all approvals, permits, licences and/or written authorizations before the full amount of holdback will be released.

The Contractor shall familiarize himself with Regulatory Requirements (Chapter 3) and the Environmental Approvals Framework (Appendices A – C, and 1 – 19) as set out in the most recent edition of the Alberta Transportation manual entitled "Environmental Management System Manual".

In the event of conflicting statements between the various Acts, Authorizations, Permits, and Codes of Practice, the more stringent requirement shall apply.

1.2.50.2 Environmental Construction Operations Plan

The Contractor shall prepare and implement an Environmental Construction Operations Plan for the Contractor's project activities in accordance with the Department manuals entitled "Environmental Construction Operations Plan (ECO Plan) Framework" and "Environmental Protection Plan for the Planning and Construction of Water and Transportation Projects"; Copies of which are available on the Department's web site.

The Environmental Construction Operations Plan is intended to deal with temporary erosion control measures under the control of the Contractor during construction; not permanent or long term environmental or erosion control devices specified in the Contract.

The Contractor shall submit his ECO Plan to the Consultant at least 14-calendar days prior to the pre-construction meeting. The Consultant will review the ECO Plan and communicate any concerns to the Contractor at least 7-calendar days prior to the pre-construction meeting. The Contractor shall address any issues or concerns with regard to the proposed ECO Plan to the satisfaction of the Consultant prior to the commencement of the Work.

The finalization of the ECO Plan to the mutual satisfaction of the Consultant and the Contractor does not constitute an approval or assurance from the Consultant or the Department that the "temporary environmental control measures" detailed in the ECO Plan are sufficient to ensure compliance with all applicable legislation, regulations or conditions of approval. The Contractor is ultimately responsible to ensure all measures, used on the project, are sufficient to ensure compliance with all applicable authorities. This may mean increasing the number of installations, providing alternate devices or modifying procedures.

The Consultant may suspend work in cases where, in his opinion, the Contractor fails to comply with procedures stated in the ECO Plan. If the Contractor fails to adhere to the finalized ECO Plan, the Consultant may make other arrangements to have the Work completed, and deduct the cost thereof from any money owing to the Contractor

The cost of preparing the Environmental Construction Operations Plan and the performance of all Work necessary to ensure compliance with the applicable legislation, regulations or conditions of approval will be considered incidental to the Work and no separate or additional payment will be made.

1.2.50.3 Environmental Protection Devices or Procedures**1.2.50.3.1 Permanent Environmental Protection Devices**

The Contract documents may specify the use of various erosion control or environmental protection devices at specific locations throughout the project. These are items that are considered necessary for environmental protection for some period of time following the completion of construction. The timing of the installation or construction of these devices and the quantities required will be specified in the Contract or determined by the Consultant. These devices will be paid for at the applicable unit price bid for the specific device used.

1.2.50.3.2 Temporary Environmental Protection Devices or Procedures

All other environmental protection or erosion control devices or procedures required to ensure compliance with the Specifications, applicable legislation, regulations or approvals during construction are deemed to be necessary only as temporary environmental protection measures and shall be the direct responsibility of the Contractor. This shall include the responsibility for determining the quantities, nature and locations of such devices or procedures and the timing of

each event. The Contractor shall, to the extent possible, identify these devices or procedures in his Environmental Construction Operations Plan.

No separate payment will be made for any temporary environmental protection measures undertaken by the Contractor regardless of whether or not the temporary measure is detailed in the Contractor's Environmental Construction Operations Plan or whether or not the Contract contains a bid item for the device(s) or procedure(s) used, with the exception that payment will be made for any temporary erosion control device, which the Consultant directs to remain in place following the Construction Completion Inspection.

1.2.50.3 Maintenance of Environmental Protection Devices

The Contractor shall maintain all permanent erosion control devices to the extent required and as directed by the Consultant, up to the time of Construction Completion.

The Contractor shall monitor and maintain temporary erosion control devices at all times throughout construction and during periods of shutdown, to the extent required to protect the environment.

Payment for maintaining temporary and permanent erosion control devices will be considered incidental to the Work, with the exception of removing and disposing of silt from silt containment ponds and sediment barriers. Removing and disposing of material from silt containment ponds and sediment barriers will be paid for in accordance with Section 1.2.25, Extra Work.

1.2.50.4 **Produced Sand**

Produced Sand (oilfield waste sand) is prohibited from use as a stand alone or component material in all phases of construction on Alberta Transportation projects including grading, base course, paving and bridge work.

1.2.50.5 **Work Subject to the Migratory Birds Convention Act**

The Contractor is advised that the all Work is subject to the Migratory Birds Convention Act. The Contractor will be prohibited from carrying out clearing or other Work that may disrupt nesting habitat for the period of time during which birds species listed under the Act are present and nesting. At the sole discretion of Alberta Sustainable Resources Development, this period may start by April 1 and extend through to July 15 in any year. Depending on the project location and seasonal weather conditions, Alberta Sustainable Resources Development reserves the right to adjust these dates.

If the Contractor wishes to commence clearing or other potentially disruptive work after April 1 and before July 15, he shall employ a Wildlife Specialist, acceptable to the Consultant, to determine whether the proposed work will disturb nesting birds listed under the Act. The Contractor shall submit the Wildlife Specialist's report to the Consultant for review a minimum of 1 week prior to the scheduled commencement of this work.

All costs associated with obtaining the services of the Wildlife Specialist, preparation of the Wildlife Specialist's report and any measures necessary to mitigate disturbance to nesting habitat will be considered incidental to the Work, and no separate or additional payment will be made.

The Contractor shall have no claim against the Department for any inconvenience, delay or loss arising from compliance with the Migratory Birds Convention Act, or resulting from a different exclusionary period imposed by Alberta Sustainable Resources Development.

1.2.51 GOODS AND SERVICES TAX

This is to certify that the property and/or services ordered/purchased hereby are being purchased by Alberta Transportation, which is part of the Alberta Crown or is listed as a tax free Alberta Government agency, and are therefore not subject to the Goods and Services Tax.

This applies to all payments made by the Department to the Contractor under this Contract. The tender prices shall exclude any allowance for the Goods and Services Tax.

1.2.52 CONSTRUCTION COMPLETION AND ACCEPTANCE

Upon notice from the Contractor of completion of the entire Work, the Department and Consultant will make an inspection of the Work accompanied by the Contractor's representative. If the Work is found to be completed in accordance with the Contract, that inspection shall constitute the construction completion inspection and the Consultant will issue a Construction Completion Certificate to the Contractor indicating the Department's acceptance of the Work and the start of the warranty period.

If the inspection discloses any unsatisfactory Work, the Consultant will give the Contractor a list of deficiencies and the Contractor shall immediately correct the deficiencies. Upon correction of the deficiencies, another inspection will be made and, provided the Work has been satisfactorily completed, the Consultant will issue a Construction Completion Certificate to the Contractor.

1.2.53 CONTRACTOR'S WARRANTY AND FINAL ACCEPTANCE

During the warranty period, the Contractor shall warrant the Work to be free from any defect or failure and to withstand climatic, maintenance and normal operational conditions. Generally, the warranty period shall be two years for bridge structures and bridge culverts; and one year for other work. Unless otherwise specified, warranty periods shall commence on the date of Construction Completion as determined by the Department.

Work requiring warranty periods different from the above, will be identified in the special provisions.

Warranty repairs are a performance requirement of the Contract, and shall be assured by the security provided. For work where warranty periods in excess of 2 years are specified, the Surety will not be responsible for warranty beyond the second year of any such warranty period.

Unless otherwise shown in the Special Provisions, the following Contract work will not require a warranty:

- grade construction (with the exception of areas directly over culvert installations) which is not receiving granular base course or pavement surfacing under the Contract;
- stand alone crushing contracts;
- stand alone clearing contracts; or
- permanent erosion control devices.

The Contractor shall repair, at his own expense, any such defect or failure which occurs in the Work prior to the expiry of the warranty period. The Department will notify the Contractor, in writing, of repairs required during the warranty period; and the Contractor shall promptly make the necessary repairs.

If the Contractor fails to carry out repairs promptly or to the satisfaction of the Department, the Department may then make other arrangements to have the repairs done, the cost of which shall be a debt due and owing by the Contractor and the Surety to the Department. Specific requirements concerning the timing of any warranty work required for seeding are detailed in Specification 2.20, Seeding.

Upon completion of all above requirements, a Final Acceptance Certificate will be issued by the Department.

1.2.54 CLAIMS AND DISPUTE RESOLUTION

Any claims, demands or actions by the Contractor, arising out of alleged errors, omissions or misrepresentations in the Contract Documents or arising out of acts or omissions of the Consultant, the Consultant's directors, officers, employees, sub-consultants, or agents in relation to the Work, shall be made only to or against the Department. The Contractor waives any right to commence or carry on such claims, demands or actions against any person or party other than the Department.

1.2.54.1 **Claims Resolution Process**

The resolution of claims arising between parties to this Contract; is subject to the following structured process:

1.2.54.1.1 Claims

If a situation or occurrence arises between the Department and the Contractor, in connection with or arising out of the Contract or the execution of the Contract Work, which results in a difference in opinion between the parties as to payment or compensation required under the Contract or the time required to complete the Contract, such situation or occurrence shall be considered a claim.

1.2.54.1.2 Resolution of Claims

Where the Department or the Contractor considers that a Claim has arisen under the Contract, the Department or Contractor shall issue a Notice of Claim to the other party.

A Notice of Claim shall be in writing and shall state the details of the claim. A Notice of Claim issued by the Contractor to the Department pursuant to this Contract shall be served to the Consultant.

A Notice of Claim shall be served as soon as possible after the occurrence of the circumstance giving rise to the Claim and not later than seven (7) days after the occurrence of the circumstance, or the claimant becoming aware of the circumstance. Failure to serve a Notice of Claim within the prescribed time period will preclude the claimant from proceeding with the Claim.

The Parties shall make bona fide efforts to resolve a claim and the Work shall proceed without delay during the claims resolution process. Attempts to resolve claims shall sequentially follow the administrative review structure as follows:

1. Consultant
2. Regional Director
3. Executive Director, Program Management Branch

The Department or the Contractor may not unilaterally proceed to litigation without agreement of the other party.

In the event the claim is not resolved to the satisfaction of both parties through this process and the claimant wishes to pursue the matter further, it is incumbent upon the claimant to issue a Notice of Dispute in accordance with Appendix A, Mandatory Dispute Resolution Process of the document entitled "Dispute Resolution Process for Government of Alberta Construction Contracts".

1.2.54.2 **Dispute Resolution Process**

Claims which escalate into disputes, shall follow the processes identified in the document entitled "Dispute Resolution Process for Government of Alberta Construction Contracts", Appendices A, B, C, D, & E. In the event of a conflict between the aforementioned Appendices and other provisions of the Contract, the Appendices shall govern.

All references to Owner in the "Dispute Resolution Process for Government of Alberta Construction Contracts" shall mean the Department.

Any Notice of Dispute issued by the Contractor to the Department pursuant to this Contract shall be served to:

Executive Director,
Program Management Branch
2nd Floor, Twin Atria Building
4999 - 98 Ave.
Edmonton, AB, T6B 2X3

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1. **SUPPLEMENTS, AMENDMENTS, MODIFICATIONS AND PROVISIONS**

X	AMENDMENTS TO SPECIFICATIONS	
	Designation	General Description
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	AMC_S53.1	Construction Staking and Survey Majority by Contractor
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	AMC_S53.3	Construction Staking and Survey for Bridge Structures
	AMC_C230	Diesel Fuel Cost Adjustment
SECTION 3 – SURFACING		
	AMC_S116	Tolerances for Surface Finish
	AMC_S155	Hot In-Place Recycled Asphalt Pavement - EPS
	AMC_S201	Acceptance Testing for Contracts with Small Quantities (less than 1000 tonnes) of Asphalt Concrete Pavement (ACP)
SECTION 4 – MISCELLANEOUS		
	AMC_S231	Truck Haul Registry
SECTION 5- MATERIALS		
	AMC_S9.4	Supply of Aggregate - With Option
	AMC_S9.5	Supply of Aggregate - No Option
	AMC_S9.6	Supply of Aggregate – Designated Source
	AMC_C218	Interim Supply of Materials
BRIDGE CONSTRUCTION SPECIFICATIONS		
	AMC_B013	Adjustment of Completion Date and Liquidated Damages
	AMC_B010	Site Occupancy for Contracts with Major Bridge Component
	AMC_B011	Lane Closure for Bridge Construction
	AMC_B020	Site Offices for Bridge Structure Construction
	AMC_B219	Course of Construction Insurance – Optional

1.1 PRIORITY LINE PAINTING FOR SITE OCCUPANCY

1.1.1 SITE OCCUPANCY

In accordance with Section 1.2.21.7, Completion of Line Painting, and for the purposes of calculating Calendar Days for Site Occupancy, this project will be considered a Priority Line Painting project.

1.2 NON-PRIORITY LINE PAINTING FOR SITE OCCUPANCY

1.2.1 SITE OCCUPANCY

In accordance with Section 1.2.21.7, Completion of Line Painting, and for the purposes of calculating Calendar Days for Site Occupancy, this project will be considered a Non-Priority Line Painting project.

1.3 CONSTRUCTION STAKING AND SURVEY - MAJORITY BY CONTRACTOR

1.3.1 FOR ASPHALT CONCRETE PAVEMENT- EPS OR COMBINED GRANULAR BASE COURSE, ASPHALT CONCRETE PAVEMENT- EPS PROJECTS OR OTHER APPLICABLE PROJECTS WHERE MEASUREMENT OF EXCAVATION QUANTITIES AS DETAILED IN SPECIFICATION 2.3, GRADING IS NOT REQUIRED

1.3.1.1 **The following is inserted before the first paragraph of Section 1.2.31, Stakes, Marks and Engineering Tests:**

The Consultant will indicate the beginning and end of the project and sufficient reference points and other information for horizontal and vertical control, to be used by the Contractor for his detailed layout. This information will include, if available, radii and lengths of curves, design superelevations, pavement widths, and centreline deflection points. The Contractor shall protect and shall not remove or destroy, or permit to be removed or destroyed, the stakes or marks set as reference points by the Consultant.

Subsequent to the initial reference points staking performed by the Consultant, the Contractor shall perform all layout, survey and construction staking necessary to meet specified requirements for any type of construction.

The Contractor's detailed survey layout for base course construction shall include a complete base-line displaying project stationing at 20 m intervals suitable for referencing test locations and for purposes of measurement for payment. For Asphalt Concrete Pavement overlay projects, the base-line shall display project stationing at 30 m intervals.

Layout for interim lane markings, including those for intersection treatments, shall be performed by the Contractor at his own cost.

The Contractor shall provide at his own cost, any survey activities as required and including, but not limited to, the following:

- Layout for interim lane markings, including those for intersection treatments
- Re-establishing the start and finish of "No Passing Zones", or at new limits as directed by the Consultant
- String line or other markings for the alignment or grade control of construction equipment

1.4 CONSTRUCTION STAKING AND SURVEY - MAJORITY BY CONSULTANT

1.4.1 FOR PROJECTS WHERE MEASUREMENT OF EXCAVATION QUANTITIES AS DETAILED IN SPECIFICATION 2.3, GRADING IS NECESSARY

1.4.1.1 **The following is inserted before the first paragraph of Section 1.2.31, Stakes, Marks and Engineering Tests:**

Stakes or marks will be set by the Consultant to define the location, alignment, elevation, and grade required for the Work. The Contractor shall give the Consultant ample notice of the time and place where the stakes or marks will be needed. The Contractor shall protect, and shall not remove or destroy or permit to be removed or destroyed, the stakes or marks placed on or about the Work by the Consultant.

The Contractor shall satisfy himself before commencing the Work as to the correctness and meaning of all stakes and marks.

Initially, the Consultant will provide complete baseline survey stakes at 20 m intervals which show offsets and metric station numbers or kilometre chainages that correspond to the control section. Additional baselines may be warranted depending on the complexity and terrain of the project. At least one baseline will note elevations above or below the shoulder grade. Work stakes will indicate backslope and/or sideslope cut and fills left and right of centerline.

Culvert locations will be staked by the Consultant noting the location of culvert ends, invert elevations, sizes and lengths.

Bridge fills will be staked by the Consultant in accordance with the applicable standard drawing(s).

The Contractor shall perform any further required survey to complete and prepare the roadway for final grade stakes.

When the Contractor determines that the roadway is sufficiently completed and prepared for final grading, he shall request that the Consultant provide final grade stakes. The Consultant will provide a maximum of two sets of final grade stakes.

Remaining survey activities for completing the base course and paving construction will be carried out by the Consultant.

Notwithstanding these provisions the Contractor shall perform at his own cost, any survey related activities as required and including, but not limited to, the following:

- Layout for interim lane markings, including those for intersection treatments
- Re-establishing the start and finish of "No Passing Zones", or at new limits as directed by the Consultant
- String line or other markings for the alignment or grade control of construction equipment

1.5 AMENDMENT TO SPECIFICATION 1.2, GENERAL, RE: CONSTRUCTION STAKING AND SURVEY FOR BRIDGE STRUCTURES

1.5.1 THE FOLLOWING SUBSECTION IS ADDED TO SECTION 1.2.31, 'STAKES, MARKS AND ENGINEERING TESTS', OF SPECIFICATION 1.2 'GENERAL':

1.2.31.1 Construction Staking and Survey for Bridge Structures

The Consultant will provide accurate horizontal and vertical reference points for centreline of the structure. The Contractor shall protect, and shall not remove or destroy or permit to be removed or destroyed, the stakes or marks established by the Consultant.

The Contractor shall provide and be responsible for all other stakes and marks, and shall be fully responsible for the alignment, elevation and dimensions of each and every component of the structure.

The Contractor shall keep complete survey records for review purposes and make these records available to the Consultant. The Contractor shall provide such assistance as the Consultant may require for review purposes.

In the event any component(s) of the structure is found to be incorrectly located or constructed the Contractor shall, at his own expense, immediately take any action necessary to correct or replace the particular component(s) of the work in question including the supply of any and all additional material required, and the Contractor shall be responsible for any delay incurred thereby.

1.6 AMENDMENT TO SPECIFICATION 1.2, GENERAL, RE: DIESEL FUEL COST ADJUSTMENT

1.6.1 THE FOLLOWING SUBSECTION 1.2.55 IS ADDED TO SPECIFICATION 1.2 'GENERAL':

1.2.55 DIESEL FUEL COST ADJUSTMENT

1.2.55.1 General

When specified in the Special Provisions, bidders are advised that the Department will make adjustments in monthly estimate payments due to the Contractor when the Consultant determines that the monthly Construction Index Price for diesel fuel has increased or decreased in excess of 15% of the Base Index Price.

The Base Price Index that applies to the Contract will be indicated in the Special Provisions. The Monthly Price index will be published by the Department on the Department's web site.

This specification will only apply to the following types of work:

- grading projects, where the commutative total design volume of common excavation, borrow excavation, and common or borrow excavation loaded to trucks exceeds 150,000 cubic metres and the quantities are measured by the Consultant;
- surfacing projects where the design quantity of asphalt concrete pavement exceeds 30,000 tonnes, or the design quantity of granular base course exceeds 35,000 tonnes;
- combination grading and surfacing projects where any of the above criteria are applicable.

On combination projects, when at least one work type exceeds the specified minimum design quantities, the monthly diesel fuel cost adjustments will be made to all specified types of work regardless of the actual minimum design quantity.

This specification will only apply to low sulphur diesel fuel, at the consumption rates specified hereafter. No allowance will be made to the specified consumption rates based on Contractor's choice of equipment, type of fuel, construction methodologies, efficiencies, or haul distances.

No diesel fuel price adjustments will be made to lump sum bid items.

1.2.55.2 Definitions

Monthly Price Index The Monthly Price Index (MPI) will be based on the average Edmonton and Calgary Rack Rates for low sulphur diesel as published by the Oil Price Information Service (OPIS). The MPI will be calculated as the average of the first three Mondays of each month. New MPI's will be established each month by the Department. In the event of a statutory holiday, the Rack Rate from the next working day will be used to determine the MPI.

Base Price Index The Base Price Index (BPI) is the baseline value of low sulphur diesel fuel that will be specified in the Special Provisions. Generally, the BPI for a Contract will be the most current MPI as determined by the Department prior to the initial tender advertising date.

Monthly Diesel Price Index The Monthly Diesel Price Index (MDPI) is the MPI published by the Department for the month in which Work is completed. To coincide with the time period used by the Department for preparing Progress Payments, the MDPI will be considered effective from the 26th day of the previous month to the 25th day of the current month.

1.2.55.3 Diesel Fuel Consumption Rates

For the purpose of diesel fuel cost adjustments, the following diesel fuel consumption rates will be used:

Category of Work	In-Place Diesel Fuel Consumption Rate (CR)^{(1) (2) (3)}
Grading - (common excavation, borrow excavation, and common or borrow excavation loaded to trucks)	1.6 litres/m3
Crushing and Stockpiling - Designation 1 and Designation 2 aggregates	0.5 litres/tonne
Asphalt Concrete Pavement - (all mix types) In Place, excluding crushing	2.8 litres/tonne
Granular Base Course - (Designation 2) In Place, excluding crushing	2.4 litres/tonne

Note 1: The specified consumption rates include overhaul and/or truck haul. No adjustment to the consumption rate will be made based on the actual haul distance;

Note 2: No escalation / de-escalation adjustments will be considered for burner fuel;

Note 3: The consumption rate associated with haul of processed aggregate is included in the specified consumption rates for asphalt concrete pavement and granular base course. If the Contractor elects to interim haul designation 1 and designation 2 materials, there will be no adjustment to the specified consumption rates as compensation for the separate interim hauling operation;

Note 4: If the Contractor does not interim process and stockpile designation 1 and designation 2 aggregates, the consultant will add the crushing and stockpiling consumption rate to the specified consumption rates for asphalt concrete pavement and granular base course.

1.2.55.4 Calculation of Diesel Fuel Cost Adjustment

The Consultant will calculate diesel fuel cost adjustments only during months in which Work is actually performed.

The Consultant will compute the ratio of Monthly Diesel Price Index / Base Fuel Index each month. If the ratio falls between 0.85 and 1.15, inclusive, no fuel cost adjustment will be made for that month. If the ratio is less than 0.85 a credit to the Department will be computed. If the ratio is greater than 1.15 additional payment to the Contractor will be computed. Diesel Fuel Cost Adjustments will be computed as follows:

1.2.55.4.1 Diesel Fuel Price Decrease

When the Monthly Diesel Price Index is less than 85% of the Base Price Index, a diesel fuel de-escalation assessment will be calculated. This assessment will be deducted from any monies due the Contractor on the Progress Payment.

$$P.R. = (0.85 - (MDPI / BPI)) \times (Q) \times (BPI) \times (CR)$$

where:

P.R. = Price Rebate

MDPI = Monthly Diesel Price Index, as determined by the Department for the month

BPI = Base Price Index, as determined by the Department at the time of tender closing

Q = the quantity of eligible category of work, as determined by the Consultant and as reported on the monthly progress estimate

CR = the diesel fuel consumption rate for the eligible category of work

1.2.55.4.2 Diesel Fuel Price Increase

When the Monthly Diesel Price Index is more than 115% of the Base Price Index, a diesel fuel escalation assessment will be calculated. This assessment will be added to any monies due the Contractor on the Progress Payment.

$$P.I. = ((MDPI / BPI) - 1.15) \times (Q) \times (BPI) \times (CR)$$

where:

P.I. = Price Increase

MDPI = Monthly Diesel Price Index, as determined by the Department for the month

BPI = Base Price Index, as determined by the Department at the time of tender closing

Q = the quantity of eligible category of work, as determined by the Consultant and as reported on the monthly progress estimate

CR = the diesel fuel consumption rate for the eligible category of work

1.2.55.5 Contractor's Option to Participate with Diesel Fuel Cost Adjustments

For any eligible project, the Contractor shall have the option to participate or opt-out of the Department's diesel fuel cost adjustment process. The Contractor's decision to participate or opt-out will apply to the entire Work and no consideration will be given to diesel fuel cost adjustments for individual components of the Work.

If the Contractor wishes to opt-out of the Department's diesel fuel cost adjustment process, the Contractor shall state their intent in writing to the Department prior to execution of the Contract.

If a bidder does not state their intent in writing to the Department prior to execution of the Contract, the Department will deem that the Contractor's intent was to participate in the diesel fuel cost adjustment process and no further changes will be considered.

The Contractor will not be permitted to either opt-in or opt-out of the diesel fuel cost adjustment process after the execution of the Contract.

1.2.55.6 Conclusion of Diesel Fuel Cost Adjustment

The calculation of Price Rebates and Price Increases on diesel fuel consumption will only be considered for Work acceptably completed prior to the specified or adjusted Contract completion date.

For any Work completed after the specified or adjusted Contract completion date, the Department will process payments without applying any diesel fuel cost adjustments.

1.2.55.7 Final Payments

If the Work is completed prior to the specified or adjusted Contract completion date, upon completion of the Work, any difference between the estimated quantities and the final quantities will be determined by the Consultant. An average Monthly Diesel Price Index will be calculated by averaging the Monthly Diesel Price Indexes for all months in which Work was acceptably completed. This average Monthly Diesel Price Index will be applied to the quantity differences in accordance with Section 1.2.55.4.

If the Work is not completed prior to the specified or adjusted Contract completion date, diesel fuel price adjustments will not be applied to any difference between estimated and final quantities.

1.7 AMENDMENT TO SPECIFICATIONS 2.3 GRADING, 3.1, SUBGRADE PREPARATION AND ALL BASE COURSE SPECIFICATIONS REGARDING TOLERANCE FOR SURFACE FINISH

1.7.1 GENERAL

The finished surfaces constructed under this contract are subject to tolerances for elevation, slope and width. These tolerances shall apply to the following:

- (i) the finished subgrade surface;
- (ii) the finished surface of Granular Base Course, Cement Stabilized Base Course and Asphalt Stabilized Base Course; and
- (iii) embankment sideslope and ditches.

All surfaces shall be built true to grade, cross-section and alignment with consistent, uniformly contoured surfaces. Furthermore, the finished roadway grade, alignment and widths shall tie neatly into fixed control points such as bridge abutments, railway crossings, grade intersections, etc. to the satisfaction of the Consultant.

1.7.2 TOLERANCES FOR ALL TYPES OF GRADING AND BASE COURSE WORK

The Contractor shall produce all finished surfaces to achieve or exceed the grade, slope and width tolerance limits as follows:

1.7.2.1 Surface Tolerance at Base Line Stations

The deviation of the finished surface from the corresponding design elevation will be determined by the Consultant at each station. The maximum allowable deviation from the design elevation at any point will be ± 30 mm for subgrade surfaces and ± 20 mm for base course surfaces.

Furthermore, the maximum difference in deviation between consecutive stations at the same offset, shall not be more than 30 mm for subgrade surfaces and 20 mm for any type of base course surface.

1.7.2.2 Slope Tolerance Limits

The Consultant will determine the roadway slope using the elevations at centerline and edge of shoulder at any location on the finished surface that he determines necessary. These measured slopes shall be considered Slope Reference Lines.

For projects consisting of combined Grading/Granular Base Course Work or Base Course Work only, the Slope Reference Line at any location on a finished surface shall not deviate from the design slope by more than 0.25%.

For projects consisting of Grading Work only, the Slope Reference Line at any location on a finished surface shall not deviate from the design slope by more than 0.5%.

Furthermore, for all types of Work, no point on the surface shall deviate in elevation by more than 15 mm from the Slope Reference Line as determined.

1.7.2.3 **Surface Width Tolerance Limits**

The finished surface, as measured from shoulder edge to shoulder edge, shall not be wider by more than 0.1 m or narrower by more than 0.05 m from the design width as determined by the Consultant.

1.7.2.4 **Road Side Slope Tolerance Limits**

At any location, no part of any finished side slope shall deviate from the design side slope by more than ± 0.2 m/m.

1.7.2.5 **Road Ditch Width Tolerance Limits**

At any location, the ditch width shall not deviate by more than 0.2 m from the design or as approved by the Consultant.

The tolerance limits for Road Side Slope and Road Ditch Width only apply when the Contract calls for Grading Work.

1.7.3 **MEASUREMENT**

The Consultant will take as many measurements as he thinks necessary to establish compliance with this specification and may vary the general interval, particularly where the finished surface is evidently not plane between stations or across the travel lanes. The Department will make no charge for initial measurements. Where compliance with surface tolerance requirements is not initially achieved, reworking will be required. After the surfaces are reworked, the Consultant will determine if re-measuring to confirm compliance is required. If the Consultant performs re-measure and the surfaces are not in compliance, the Contractor will be charged an amount of \$500.00 per occurrence and further reworking shall be required. An "occurrence" will be considered a day or portion of a day in which re-measuring to verify compliance is performed. If the Consultant performs re-measure and the reworked surfaces are in compliance, no charge will be made for the re-measure.

For Granular Base Course projects, no payment will be made for any granular material placed outside the specified tolerance limits for Surface Width and Road Side Slope, with the exception that for Grade Widening projects where there is a need to initially construct the granular base course to a width that will accommodate construction equipment, the Consultant and Contractor shall agree on the allowable tolerances for construction and payment purposes.

In any cases where granular base course material is placed outside the specified or allowable tolerances, as the case may be, such quantity will be determined by the Consultant.

1.8 HOT IN-PLACE RECYCLED ASPHALT CONCRETE PAVEMENT - EPS

1.8.1 GENERAL

This specification is to be used only for pavement to be processed using the Hot In-Place Recycling (HIR) technology and serves as a supplement to Specification 3.50, Asphalt Concrete Pavement - End Product Specification (EPS). Specification changes have been made recognizing the unique characteristics of mixes processed using this technology. In case of conflict between this special provision and Specification 3.50, this special provision shall govern. References to Asphalt Concrete Pavement in Specification 3.50, except where noted in this special provision, shall also apply to Hot In-Place Recycling.

1.8.2 HOT IN-PLACE RECYCLING (HIR)

Hot In-Place Recycling shall consist of heating the existing asphalt concrete pavement; milling the heated pavement; mixing the milled material; adding as directed, admix, or rejuvenating agent and spreading and compacting the resultant mixture, all in one continuous operation, to the depths, lines, grades and dimensions shown on the plans or as designated by the Consultant.

1.8.3 CHANGES TO SPECIFICATION 3.50

1.8.3.1 **In Section 3.50.1.2 Definitions make the following changes:**

1.8.3.1.1 Remove definition 3.50.1.2.1 Acceptance Limits (i) Density and Actual Asphalt Content and replace with:

- (i) Density, Marshall Air Voids and Recovered Asphalt Penetration

Acceptance Limit for Density, Marshall Air Voids and Recovered Asphalt Penetration is the limiting value of the Sample Mean beyond which a Lot is accepted at full, increased or reduced payment as shown in Tables 6, 7 and 8.

1.8.3.1.2 In Section 3.50.1.2.1 Acceptance Limits remove (iii) Gradation.

1.8.3.1.3 Replace Section 3.50.1.2.5 Lot with the following:

A Lot is a portion of the Work being considered for acceptance and is generally considered to represent 3 lane-kilometres of production, but can vary in length, according to project specific requirements, within the limits of 1 lane-kilometre to 4 lane-kilometres. The actual Lot size is to be chosen by the Consultant.

A change in any one of the following may require a new Lot designation:

- (a) Mix Design
- (b) Pavement Density Requirement

1.8.3.1.4 In Section 3.50.1.2.6 Rejection Limit remove (i) Density and Asphalt Content and replace with:

- (i) Density, Marshall Air Voids and Asphalt Penetration - Rejection Limit for density, Marshall air voids and asphalt penetration is the limiting value of the Sample Mean beyond which a Lot is rejected and not paid for as shown in Tables 6, 7 and 8.

1.8.3.1.5 In Section 3.50.1.2.6 Rejection Limit remove (iii) Gradation.

1.8.3.1.6 Add the following to Section 3.50.1.2 Definitions:

3.50.1.2.14 Admix

Aggregate, with sufficient asphalt cement added to produce a uniform completely coated mixture that is added during the recycling process to improve the engineering characteristics of the HIR mix.

3.50.1.2.15 Segment

For the purposes of acceptance sampling and testing for Pavement Density, a Lot is divided into 5 or more segments of approximately equal area.

1.8.3.2 **Remove the contents of Section 3.50.2.1 Asphalt and replace with:**

The Contractor shall supply asphalt material for pre-coating of the admix in accordance with Specification 5.7, Supply of Asphalt.

1.8.3.3 **Remove the first sentence of Section 3.50.2.2 Aggregate and replace with:**

The Contractor shall supply aggregate in accordance with Specification 3.2, Aggregate Production and Stockpiling, according to the Admix Aggregate Requirements outlined in Table 2 HIR Mix Types and Characteristics

1.8.3.4 **Add the following Section to 3.50.2 MATERIALS**

3.50.2.5 Rejuvenating Agent

An asphalt rejuvenating agent or asphalt shall be provided and added by the Contractor, when required, to result in the recycled asphalt cement meeting the specified penetration criteria.

Only asphalt rejuvenating agents listed within the Department's Recognized Products List shall be used by the Contractor.

Any asphalt rejuvenating agent used by the Contractor shall meet the applicable manufacturer's specifications.

1.8.3.5 In Section 3.50.3 ASPHALT MIX DESIGN AND JOB MIX FORMULA

1.8.3.5.1 Replace Table 3.50.3.2 with Table 1

Table 1 HIR Mix Types and Characteristics

Mix Type (Note 4)	Recovered Asphalt Penetration (dmm) (Note 1)	Admix Aggregate Requirements		Air Voids (%) (Note 3) refer to Figure 1 for Box Boundaries	Marshall Stability	
		Plasticity Index (PI)	Maximum Passing 80 Fm Sieve (%) (Note 2)		Minimum (N)	Minimum % Retained
HR1	65 to 135	NP	10	A, B & C	8 000	70
HR1C	95 to 135	NP	10	B & C	8 000	70
HR2	65 to 160	NP	10	A, B, C & D	6 000	70
HR2C	115 to 160	NP	10	C & D	6 000	70

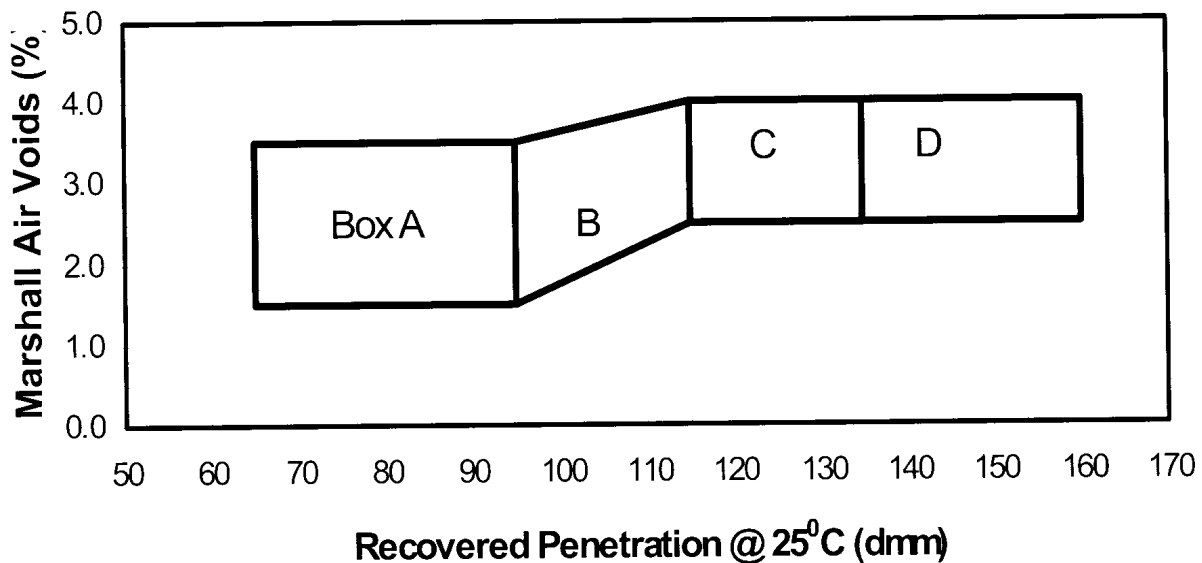
Note 1 Recovered Asphalt Penetration requirements are for the combined asphalt including any rejuvenating agent or virgin asphalt.

Note 2 If the admix is a manufactured fines aggregate the maximum limit for percent passing the 80 µm sieve shall be 13%.

Note 3 Air voids shall be determined on the basis of maximum specific gravities at each asphalt content. Marshall briquettes shall be formed using 75 blows per face at a compaction temperature of 130°C.

Note 4 HIR Mix Type shall be as listed in the special provisions.

Figure 1 HIR Design Air Voids and Design Recovered Asphalt Penetration



1.8.3.6 In Section 3.50.3.3 Verification of Mix Design make the following changes:

1.8.3.6.1 Remove items (i), (ii), (iii), (iv), (v) and (vi) and replace with the following:

- (i) The aggregate type and amount of any admix added by weight of total mix.
- (ii) The aggregate gradation of any admix used and the other aggregate characteristics for admix as specified in Table 2 HIR Mix Types and Characteristics.
- (iii) The type of asphalt cement grade and percent asphalt content added to the admix.
- (iv) Other aggregate characteristics of the admixture as specified in Table 1 HIR Mix Types and Characteristics.
- (v) Test data of the existing pavement used in the preparation of the mix design, including sampling locations, aggregate gradations, asphalt contents and penetrations @25°C (100 g, 5 s) of the existing asphalt cement.
- (vi) Identification of type and quantities of any asphalt rejuvenating agent required.
- (vii) All Marshall mix design characteristics as specified in Table 1 HIR Mix Types and Characteristics including the aggregate gradation of the recycled mix including admix where applicable.

1.8.3.6.2 Add the following to the end of the fourth paragraph:

For HIR mix the Consultant may, at any time, require the Contractor to provide representative samples of each of the aggregate components or existing pavement material for verification purposes. A sufficient quantity of each component shall be provided to result in a 10 kg sample of recycled material and no individual component shall be less than 5 kg.

1.8.3.6.3 Add the following paragraph:

The addition rate of admix and rejuvenating agent for the approved mix design will then be the Job Mix Formula for the production of HIR mix.

1.8.3.7 Remove the first three paragraphs of Section 3.50.3.4 Variation from Approved Job Mix Formula and add the following:

After the Consultant has accepted the HIR mix design, the combined aggregate gradation in the accepted design shall become the Design Combined Aggregate Gradation. The difference between the Lot Average Gradation and the Design Combined Aggregate Gradation shall not exceed the amounts shown in Table 2. Deviations outside the permissible limits shown in Table 2 will be evaluated by the Consultant to determine if a new mix design is required.

Table 2 HIR GRADATION VARIATION

SIEVE DESIGNATION	MAXIMUM PERMISSIBLE VARIATION PERCENT BY WEIGHT PASSING
5000	±6
1250	±5
630	±4
315	±3.5
160	±3.0
80	±2.5

1.8.3.8 **In Table 3.50.4.2 Test Methods make the following changes:**

1.8.3.8.1 Add "ASTM D3203" under test method for Test Description No. 9. Voids Calculation, Asphalt Concrete Specimens.

1.8.3.8.2 Add the following:

18	Asphalt Recovery from Solution by the Abson Method	ASTM D1856
19	Standard Penetration Test for Asphalt	ASTM D5
20	Theoretical Maximum Specific Gravity, Asphalt Mix	ASTM D2041

1.8.3.9 **Add the following to Section 3.50.4.3 Quality Control Testing**

The quality control testing requirements for HIR shall be as outlined in Table 3 QUALITY CONTROL TESTING REQUIREMENTS - HOT IN-PLACE RECYCLING.

Table 3
Quality Control Testing Requirements - Hot In-place Recycling

Test	Standard	Minimum Frequency
AGGREGATE PRODUCTION		See Specification 3.2
EQUIPMENT CALIBRATION	Determined by Contractor	Once per project or as required
SAMPLES		
1. Admix	ATT-38	(1)
2. HIR mix	ATT-38	One per lane-km
3. QA Cores for Pavement Density - Stratified Random Test Sites Chosen by the Consultant	ATT-56, ATT-5	Five per Lot
EQUIPMENT INSPECTION	Determined by Contractor (2)	Four per day
TESTING WITH NO SPECIFIED MINIMUM FREQUENCIES		
1 Asphalt Content of Admix and HIR mix	AASHTO T-164, T287 or ATT-12 or ATT-74	(1)

Test	Standard	Minimum Frequency
2. Moisture Content of Admix and HIR mix	ATT-15	(1)
3. Field Formed Marshall Briquettes	ATT-13	(1)
4. Absorbance Extraction of HIR mix	ASTM D1856	(1)
5. Standard Penetration of Recovered Asphalt	ASTM D5	(1)
TESTING WITH SPECIFIED MINIMUM FREQUENCIES		
1. Aggregate Extraction or Ignition Sieve Analysis of HIR mix.	ATT-26	One per HIR mix sample
OTHER RELATED TESTS		
1. Density Immersion Method, Saturated Surface Dry	ATT-7	(1)
2. Temperatures	ATT-30	(1)
3. Extraction Sieve Analysis of Admix	ATT-26	(1)
4. Void Calculations, Cores or Formed Specimens	ASTM 3203 (3)	(1)
5. Coring or Nuclear Density	ATT-5 or ATT-11 (3)	(1)
6. Percent Compaction, Asphalt Concrete Pavement	ATT-67 or ATT-11	(1)
7. Random Test Site Locations	ATT-56	As applicable
8. Correction Factors, Nuclear Moisture-Density Measurement	ATT-48	(1)
9. Thickness Measurement of Un-compacted Mat		Minimum of one per hour of production
10. Theoretical Maximum Specific Gravity of Bituminous Mixes	ASTM D2041	(1)
Notes: (1) Minimum Frequency not specified. (2) To include checks on the addition rate of any asphalt rejuvenating agent and/or admix used. (3) Percent compaction and core air voids based upon the Lot Mean Maximum Specific Gravity (Gmm). Air voids on Marshall formed specimens to be based upon corresponding individual Gmm tests.		

1.8.3.10 Make the following changes to Section 3.50.4.4 Acceptance Sampling and Testing

1.8.3.10.1 Replace the third paragraph of Section 3.50.4.4.1 with the following:

The Contractor shall provide to the Consultant all quality assurance density cores within 24 hours of receiving the stratified random sample locations. Prior to obtaining the cores, the Consultant may provide the Contractor with new or different random sample locations. The Consultant may have the Contractor obtain quality assurance cores at any time throughout the project for any Lot. All cores provided to the Consultant shall be in their original condition. Core preparation or sawing shall be done by the Consultant.

All costs associated with pavement coring for quality control and quality assurance testing shall be the responsibility of the Contractor.

1.8.3.10.2 Add the following to Section 3.50.4.4.1 General

If the testing equipment malfunction, improper testing procedures or calculations were on the part of the Consultant, the Contractor shall be reimbursed \$50 per location for obtaining cores.

1.8.3.10.3 In Section 3.50.4.4.2.1 Pavement Sampling for Density, Asphalt Content and Gradation change the title to Pavement Sampling for Density.

1.8.3.10.4 Delete the contents of 3.50.4.4.2.3 Asphalt Mix Sampling and replace with the following:

Sampling of the recycled asphalt mixture for the formation of Marshall briquettes, mix extraction, determination of the maximum specific gravity, air voids determination and penetration testing of the recovered asphalt will be done by the Consultant behind the paver as outlined in ATT-37 with the following changes:

For each mix sampling instance, an additional two split samples, of 5 000 g each, will be collected. One of the two split samples will be identified for recovered asphalt penetration testing while the remaining sample will be identified for possible appeal testing of the Lot maximum specific gravity that is used for the determination of the Lot average Marshall Air Voids.

1.8.3.10.5 Add the following as Section 3.50.4.4.2.5 Recovered Asphalt Penetration

From the group of split samples identified for penetration testing for each lot, one of the 5 000 g samples will be selected for penetration testing of the recovered asphalt. The remaining split samples identified for penetration testing, are to be saved for possible follow-up testing as outlined in the new Section 3.50.4.8.8, Recovered Asphalt Penetration as shown in this specification amendment.

The Consultant may not test every Lot for Recovered Asphalt Penetration if he is satisfied that the requirements for Recovered Asphalt Penetration are being achieved.

- 1.8.3.11 **Delete all of Section 3.50.4.6 Aggregate Gradation Requirements.**
- 1.8.3.12 **In Section 3.50.4.8 Appeal of Acceptance Test Results and Appeal Testing delete all reference to Asphalt Content and Gradation.**
- 1.8.3.13 **Rename Section 3.50.4.8.4 to be "Payment of Appeal Testing Costs for Smoothness and Marshall Air Voids" and add the following:**

Theoretical maximum specific gravity tests for determination of Lot Average Marshall Air Voids: \$100 per test.

- 1.8.3.14 **Add the following as Section 3.50.4.8.7 Marshall Air Voids**

The Contractor may appeal the theoretical maximum specific gravity test results, used to determine the Marshall air voids, of any rejected or penalized lot only once. The appeal shall be for all the theoretical maximum specific gravity tests within the Lot, and there will be no appeal allowed for single tests within a Lot.

No appeal will be allowed for Marshall bulk specific gravity test results.

The following procedure will apply for an appeal:

- (i) The Contractor shall serve notice of the appeal to the Consultant, in writing, within 48 hours of receipt of the QA test results.
- (ii) The appeal testing will consist of retesting for theoretical maximum specific gravity the split mix samples obtained for the appealed lot.
- (iii) The number of split samples shall correspond to the original number of quality assurance mix samples taken in the Lot.
- (iv) The high and low test results from the old Lot will be rejected and all the remaining test results will be added to the results of the new tests. A new mean for the test results will be determined and used for calculating the new average Marshall air voids to be used for acceptance and unit price adjustment.

The new mean, thus determined, in all cases, will be binding on the Contractor and the Department.

- 1.8.3.15 **Add the following as Section 3.50.4.8.8, Recovered Asphalt Penetration**

If the original test result for the penetration of the abson recovered asphalt falls within the range for rejection or penalty, the Consultant will arrange to have the remaining penetration split samples from that Lot tested. The number of split samples shall correspond to the original number of quality assurance mix samples taken in the Lot, less one for the original penetration test.

A new mean including the original test result and subsequent test results will be used for calculating the new average penetration of recovered asphalt for acceptance and unit price adjustment.

The new mean, thus determined, in all cases, will be binding on the Contractor and the Department.

1.8.3.16 Add the following to Section 3.50.5 CONSTRUCTION

3.50.5.10 Hot In-Place Recycling

Equipment used for hot in-place recycling shall be specifically designed to heat and mill the existing pavement to a minimum depth of 50 mm, thoroughly mix the recycled material and uniformly spread the recycled material. Milling heads are to be used for removing the existing pavement material as opposed to the sole use of scarifier tines which shall not be allowed.

The recycling equipment shall be designed to heat the recycled material to within specified limits without scorching or localized over-heating of any of the recycled material.

The hot in-place recycling equipment shall be equipped with a mixing system capable of continued and consistent mixing. The mixing system must have sufficient capacity to thoroughly mix the recycled material including any admixture and/or rejuvenating agent into a homogeneous mass.

The hot in-place recycling equipment shall be equipped with a vibratory heated screed and strike-off device capable of distributing and placing the recycled mix to the depths and dimensions shown on the typical plans and sections. The temperature of recycled material behind the paver screed shall be greater than 110°C. At no time shall the recycled material be heated over an average material temperature of 150°C in order to avoid excessive oxidation and hardening of the recycled asphalt cement.

The recycler unit shall be equipped to enable admix to be metered into the material being processed at a controlled and uniform rate and in such a manner to ensure that all materials are uniformly mixed with the recycled material. All HIR material, with or without admix, shall be uniformly mixed and coated.

The recycler unit shall be equipped to enable a rejuvenating agent to be uniformly added to the heated and milled mixture. Such equipment shall provide for the following:

- (i) Positive feed and shut-off, interlocked to the movement and processing rate of the recycler.
- (ii) Control of the quantity to ± 0.05 l/m² from the approved target application rate.
- (iii) Measurement of the total volume used by means of a calibrated metering device capable of recording accumulated litres to an accuracy of $\pm 2\%$.
- (iv) Heating and maintaining the temperature to within $\pm 5^\circ\text{C}$ of the temperature recommended by the manufacturer of the rejuvenating agent used.

HIR equipment shall be operated in accordance with the manufacturer's recommendations and shall be calibrated prior to commencing production. The Contractor shall provide the Consultant with calibration data indicating that the hot in-place recycling equipment has been calibrated to produce a uniform mixture in accordance with the Job Mix Formula.

The HIR production has the potential to produce unlawful air emissions unless carried out carefully using the appropriate equipment. In this regard, the Contractor's attention is directed specifically to Section 1.2.51 of the specifications. The Contractor shall have no claim to any

exemption from the requirements of Alberta Environment, or to any payment for extra costs resulting from the need to comply with their requirements, by virtue of this Contract or for any other reason.

1.8.3.17 Add the following to Section 3.50.5.2.1 General

Pavement surfaces to be recycled shall be cleaned of all dirt, dust, and other objectionable matter. The existing asphalt surface shall be heated a minimum of 0.10 m wider on each side than the width being processed. The processing width shall be as shown on the plans or as determined by the Consultant.

For hot in-place processed material, the requirements for prime coat or tack coat do not apply.

1.8.3.18 Add the following to Section 3.50.5.2.3 Transverse Pavement Joints:

At locations where hot in-place recycling is used the preceding joint requirements do not apply, however the Contractor shall ensure that the transition between the treated and untreated surfaces is smooth with no irregularities.

1.8.3.19 Make the following changes to Section 3.50.6.2.1 Acceptance at Full or Increased Payment:

1.8.3.19.1 delete sections (ii) and (v)

1.8.3.19.2 add the following

- (vi) the average Marshall Air Voids of the mix is within the applicable limits specified in Table 1 HIR Mix Type and Characteristics.
- (vii) the average penetration of the recovered asphalt is within the limits shown within Table 6 indicating no price adjustment for the applicable HIR mix type.

1.8.3.20 In the first paragraph of Section 3.50.6.3 End Product Rejection replace the words "actual asphalt content or aggregate gradation" with "Marshall air voids or penetration of recovered asphalt".

1.8.3.21 In Section 3.50.7 Measurement and Payment, replace Section 3.50.7.1 with the following:

3.50.7.1 HIR Pavement

Accepted HIR Pavement will be measured in square metres as determined by the actual treatment width and length measured according to the established baseline survey and will be paid for at the unit price bid per square metre for "HIR Pavement - EPS" subject to the unit price adjustments and assessments hereinafter specified. This payment will be full compensation for all labour, equipment, tools and incidentals necessary to complete the work in accordance with the Special Provisions in the Contract and shall include heating, milling, mixing, laying and compacting the recycled asphalt mixture; supplying and adding admix; aggregate supply and processing; supplying and adding rejuvenating agent or virgin asphalt; interim lane markings; quality control testing including sampling of quality assurance cores and traffic accommodation.

1.8.3.22 In Section 3.50.7.1.1 Pay For Acceptable Work make the following changes:

1.8.3.22.1 Delete the first six paragraphs and replace with the following:

The following end product properties of "HIR Pavement - EPS" will be measured for acceptance in accordance with Section 3.50.4.4 Acceptance Sampling and Testing.

- (i) Pavement Density
- (ii) Marshall Air Voids
- (ii) Penetration of Recovered Asphalt
- (iv) Smoothness (top lift only)
- (v) Segregation (top lift only)

For the Pavement Density, Marshall Air Voids and Penetration of Recovered Asphalt to be acceptable, they must be within the limits shown in Tables 4, 5 and 6.

For each Lot, the unit price adjustments for Pavement Density, Marshall Air Voids and Penetration of Recovered Asphalt will be the amounts shown in Tables 4, 5 and 6.

The unit price applicable to each Lot quantity of "HIR Pavement, - EPS" will be calculated as follows:

$$\boxed{\begin{array}{c} \text{Lot Unit Price} \\ \text{per Square Metre} \end{array}} = \boxed{\begin{array}{c} \text{Contract Unit Price} \\ \text{per Square Metre} \end{array}} + \boxed{\begin{array}{c} \text{the sum of the unit price} \\ \text{adjustment for PAd + PAr + PAv} \end{array}}$$

where:

- PAd = Unit Price Adjustment for Pavement Density (bonus or penalty)
- PAr = Unit Price Adjustment for Penetration of Recovered Asphalt (penalty only)
- PAv = Unit Price Adjustment for Marshall Air Voids (penalty only)

If the mean Pavement Density or the mean Marshall Air Voids or the mean Penetration of Recovered Asphalt is outside the acceptance limit, the Lot is rejected, and no payment will be made for the quantity of HIR in that Lot, until the defect has been remedied.

1.8.3.22.2 In the second last paragraph of 3.50.7.1.1 Pay For Acceptable Work, the terms "PAa and PAq" are replaced with the terms "PAr and PAv".

- 1.8.3.23 In section (ii) of 3.50.7.1.3 Payment For Work That had Been Rejected, But Was Made Acceptable delete the words "Asphalt Content and Gradation" and replace with "Marshall Air Voids and Penetration of Recovered Asphalt".

Table 4		
Unit Price Adjustment for Density - Hot In-Place Recycled Asphalt Concrete Pavement		
% Lot Mean Maximum Specific Gravity	HIR Unit Price Adjustment	
	HIR (\$/m2)	
Lot Average	Design Lift Thickness	
	40 mm	50 mm
\$ 95.5	0.048	0.06
95.4	0.043	0.054
95.3	0.039	0.048
95.2	0.034	0.042
95.1	0.029	0.036
95.0	0.024	0.03
94.9	0.019	0.024
94.8	0.015	0.018
94.7	0.009	0.012
94.6	0.005	0.006
94.5	0	0
94.4	-0.009	-0.012
94.3	-0.019	-0.024
94.2	-0.029	-0.036
94.1	-0.039	-0.048
94.0	-0.048	-0.06
93.9	-0.057	-0.072
93.8	-0.066	-0.084
93.7	-0.077	-0.096
93.6	-0.086	-0.108
93.5	-0.096	-0.12
93.4	-0.106	-0.132
93.3	-0.115	-0.144
93.2	-0.125	-0.156
93.1	-0.134	-0.168
93.0	-0.144	-0.180
92.9	-0.154	-0.192
92.8	-0.163	-0.204
92.7	-0.173	-0.216
92.6	-0.182	-0.228
92.5	-0.191	-0.240
92.4	-0.211	-0.264
92.3	-0.229	-0.288
92.2	-0.250	-0.312
92.1	-0.268	-0.336
92.0	-0.288	-0.360
91.9	-0.307	-0.384
91.8	-0.327	-0.408

Table 4		
Unit Price Adjustment for Density - Hot In-Place Recycled Asphalt Concrete Pavement		
% Lot Mean Maximum Specific Gravity	HIR Unit Price Adjustment	
	HIR (\$/m2)	
Lot Average	Design Lift Thickness	
	40 mm	50 mm
91.7	-0.345	-0.432
91.6	-0.365	-0.456
91.5	-0.384	-0.480

For lower lifts when the Lot average density is less than 90.0% and greater than 86.9%, payment will be 50% of the unit bid price.

For top lifts where the Lot average density is less than 90.0% and greater than 87.9%, payment will be 50% of the unit bid price.

For top lifts where the Lot average density is less than 88.0% and on lower lifts where the density is less than 87.0%, the Contractor shall remove and replace the mix, or on approval of the Consultant, reprocess using HIR equipment.

Table 5		
Unit Price Adjustment for Marshall Air Voids - HIR		
Amount That Lot Average Air Voids (%) is	HIR Unit Price Adjustment - HIR (\$/m2)	
	Treatment Depth	
Below Lower Design Limit	40 mm	50 mm
0.1	-0.04	-0.05
0.2	-0.08	-0.10
0.3	-0.12	-0.15
0.4	-0.16	-0.20
0.5	-0.20	-0.25
0.6	-0.24	-0.30
0.7	-0.32	-0.40
0.8	-0.40	-0.50
0.9	-0.48	-0.60
1.0	-0.56	-0.70
Above Upper Design Limit	40 mm	50 mm
0.1	-0.04	-0.05
0.2	-0.08	-0.10
0.3	-0.12	-0.15
0.4	-0.16	-0.20
0.5	-0.20	-0.25
0.6	-0.32	-0.40
0.7	-0.44	-0.55
0.8	-0.56	-0.70
0.9	-0.68	-0.85
1.0	-0.80	-1.00

Note 1:

Lower and upper Air void design limits are determined from Figure 1 HIR Design Air Voids and Recovered Asphalt Penetration Limits according to the Design Recovered Asphalt Penetration.

For lower lifts when the Lot average Marshall air voids is greater than 1% above the upper design limit, payment will be at 50% of the unit bid price.

For top lifts when the Lot average Marshall air voids is greater than 1% above the upper design limit, the Contractor shall either overlay or remove and replace the previously placed mix or, on the approval of the Consultant, reprocess using HIR equipment.

For lower lifts where the Lot average Marshall air voids is greater than 1.0% below the lower design limit, payment will be at 50% of the unit bid price.

For top lift where the Lot average Marshall air voids is greater than 1.0% below the lower design limit, the Contractor shall remove and replace the mix or, on the approval of the Consultant, reprocess using HIR equipment.

**Table 6
Unit Price Adjustment for Recovered Asphalt Penetration
Hot In-Place Recycled Pavement**

Amount That Lot Average Recovered Penetration is (dmm @ 25 CE)		HIR Unit Price Adjustment HIR (\$/m2)	
		Treatment Depth	
Below Lower Design Limit Shown in Table 1	Above Upper Design Limit Shown in Table 1	40 mm	50 mm
# 10	0	0.00	0.00
11	1 - 2	-0.06	-0.08
12	3 - 4	-0.08	-0.10
13	5 - 6	-0.10	-0.12
14	7 - 8	-0.11	-0.14
15	9 - 10	-0.13	-0.16
16	11 - 12	-0.17	-0.21
17	13 - 14	-0.21	-0.26
18	15 - 16	-0.25	-0.31
19	17 - 18	-0.29	-0.36
20	19 - 20	-0.33	-0.41
21	21 - 22	-0.38	-0.48
22	23 - 24	-0.44	-0.55
23	25 - 26	-0.50	-0.62
24	27 - 28	-0.55	-0.69
25	29 - 30	-0.61	-0.76

For any lifts when the Lot average recovered asphalt penetration is greater than 30 dmm above the upper specification limit, the Contractor shall remove and replace the previously placed mix.

For any lifts where the Lot average recovered asphalt penetration is greater than 25 dmm below the lower specification limit, payment will be at 50% of the unit bid price.

1.9 ACCEPTANCE TESTING FOR CONTRACTS WITH SMALL QUANTITIES (LESS THAN 1000 TONNES) OF ASPHALT CONCRETE PAVEMENT (ACP)

1.9.1 AMENDMENTS TO SPECIFICATION 3.50, ASPHALT CONCRETE PAVMENT - EPS:

1.9.1.1 In section 3.50.1.2.5 Lot, items (i) and (ii) are deleted and replaced with the following; and item (iii) is renumbered to item (ii):

- (i) The entire quantity of ACP will normally be considered as one Lot, notwithstanding the conditions outlined in item (ii).

1.9.1.2 **Table 3.50.4.3 Quality Control Testing Requirements - Managed QA Testing Projects, is replaced with the following table:**

Test	Standard	Minimum Frequency
AGGREGATE PRODUCTION		See Specification 3.2
ASPHALT MIX PLANT		
1. Calibration	ATT-17	Once per project or as required (1)
2. Inspection	ATT-16	
SAMPLES		
1 Asphalt Cement	ATT-42	See Specification 5.7
2 Tack, Prime and Fog Materials	ATT-42	See Specification 5.7
3 Cold Feed Aggregate	ATT-38	(1)
4 Mix	ATT-37	(1)
5 QA Cores for Pavement Density, Asphalt Content and Gradation obtained by the Contractor at Stratified Random Test Sites chosen by the Consultant	ATT-56 ATT-5	Five core locations per Lot.
TESTS		
1 Mix Asphalt Content	AASHTO T-164, T287 or ATT-12 or ATT-74	(1)
2 Correction Factors	ATT-12, Part III or ATT-74, Part II	As Required
3. Mix Moisture Content	ATT-15	(1)
4. Aggregate Sieve Analysis	ATT-26	(1)
5. Field Formed Marshall Briquettes	ATT-13	(1)
6. Density Immersion Method, Saturated Surface Dry	ATT-7	(1)
7. Void Calculations, Cores or Formed Specimens	ATT-36	(1)
8. Temperatures	ATT-30	(1)
9. Percent Compaction, Cores or Nuclear Density	ATT-67, ATT-5 or ATT-11	(1)
10 Random Test Site Locations	ATT-56	(1)
11 Correction Factors, Nuclear Moisture-Density Measurement	ATT-48	(1)

Notes: (1) Minimum Frequency not Specified.

1.9.1.3 The following is added to section 3.50.4.4.2.1, Pavement Sampling for Density, Asphalt Content and Gradation:

Samples for asphalt content and gradation may be obtained by the consultant using the Sampling Mix Behind Paver method described in ATT-37. If the number of mix samples is less than five and the test results on the loose mix samples indicates that the mix is in penalty or rejection for asphalt content or in rejection for gradation, then additional cores samples shall be taken by the Contractor at locations as determined by the Consultant in order to perform the minimum five tests per Lot.

Testing for pavement density may be waived at the discretion of the Consultant. Pavement sampling for density will consist of 5 cores taken by the Contractor at locations as determined by the Consultant. If field formed Marshall density values are not available for compaction comparison the Consultant will determine the average Maximum Specific Gravity (Test Method ASTM D2041) on the 5 core samples to use for compaction comparison. Price adjustments and acceptance criteria will then be based upon Table 3.53A Unit Price Adjustments for Density.

1.9.1.4 All references to Table 3.50A shall mean Table 3.53A.

1.9.1.5 The following is added to section 3.50.4.4.2.2, Pavement Sampling for Smoothness:

QA smoothness testing may be waived at the discretion of the Consultant. Acceptance and rejection criteria for smoothness, including lump sum subplot assessments, will not apply if the Consultant elects not to undertake smoothness testing. If the Consultant does undertake QA smoothness testing then all acceptance and rejection criteria will apply, including lump sum subplot assessments and penalties for bump or dip defects over 8 mm.

1.9.1.6 In Section 3.50.4.4.2.3 Asphalt Mix Sampling, the word "will" is changed to "may".

1.9.1.7 The following changes are made to Section 3.50.4.7.3.2, Inspections By The Consultant:

1.9.1.7.1 The third sentence of the second paragraph of item (i) Inspections During Construction, is replaced with the following:

During the inspection(s) of the top lift, the Consultant will identify and record any areas of slight, moderate and severe segregation and any areas of centre-of-paver streak.

1.9.1.7.2 Item (ii) 'Inspection Following Construction' is deleted.

1.9.1.8 In Section 3.50.6.2.1 End Product Acceptance, the term "Lot Mean Marshall density" is replaced with the following:

"Lot Mean Marshall density or the Lot Mean Maximum Specific Gravity".

1.9.1.9 **In Section 3.50.7.1.2 Segregation Payment Adjustments, the following text is deleted from the first sentence of the second paragraph:**

"either during construction or during the inspection conducted 2 weeks after the completion of paving work,"

1.10 TRUCK HAUL REGISTRY

The second paragraph of Subsection 4.5.3.1, **Vehicle Requirements**, is replaced with the following:

“Each truck used for hauling shall have current registration with the Alberta Sand and Gravel Association (ASGA) Registry, or equivalent registry system designed to allow the public to lodge haul related complaints.

Each haul truck shall display signs on three sides of the vehicle indicating the name of the registry system, and displaying a clearly visible toll-free telephone contact number and unique truck identifier. The truck identifier shall have no more than 8 characters, with a minimum height of 150 mm per character.

The registry system used shall forward all complaints received to the Contractor; shall record the nature of the complaint; and shall be able to provide the Department with summary statistics when requested.

All complaints received by the Contractor shall be handled in accordance with Section 1.2.42, Due Care, Claim Settlement and Hold Harmless, of Specification 1.2, General.

Prior to a haul truck being used, the Contractor shall provide the Consultant with identification information including the haul truck number, truck registration identifier, allowable gross vehicle weight and tare vehicle weight.”

1.11 SUPPLY OF AGGREGATE - CONTRACTOR'S SUPPLY WITH OPTION

The Contractor shall supply the aggregate for this Contract. The Contractor has the option of supplying aggregate from the source controlled by the Department identified in the Special Provisions or from other sources of his own choice. No other source controlled by the Department may be used for the gravel component of the aggregate. However, sources controlled by the Department may be used for the blend sand component of the aggregate subject to the approval of the Department.

1.12 SUPPLY OF AGGREGATE - CONTRACTOR'S SUPPLY WITH NO OPTION

The Contractor shall supply the aggregate for this Contract from sources of his own choice with the exception that the gravel component of the aggregate may not be obtained from a source controlled by the Department. However, sources controlled by the Department may be used for the blend sand component of the aggregate, subject to the approval of the Department.

1.13 SUPPLY OF AGGREGATE – DESIGNATED SOURCE

The Contractor shall supply the aggregate for this Contract from the source(s) identified in the Special Provisions. No other source may be used for the gravel component of the aggregate, except that other sources including those controlled by the Department may be used for the blend sand component of the aggregate, subject to the approval of the Department.

No payment will be made for aggregate extracted from sources controlled by the Department.

If blend sand is supplied from a source that is not controlled by the Department, the supply of aggregate will be considered incidental to the Work and no separate or additional payment will be made.

1.14 INTERIM SUPPLY OF MATERIALS

The Contractor will have the option of requesting interim payment for the supply of materials for those items identified in the Special Provisions. This specification will only apply when the supply of materials is considered incidental to the Work, and when interim supply of materials is not addressed in the applicable specification.

Interim payments for the supply of materials are not considered as value of work completed on bid items where payment for Mobilization is being considered.

1.14.1 GENERAL

Interim payments for the supply of material will be made under the following conditions:

- (i) The Contractor submits a written request for interim payment to the Consultant.
- (ii) Supplied materials will be inventoried for more than 30 days before incorporation into the Work.
- (iii) The supply, fabrication, inspection and testing of the supplied materials has been completed in accordance with the applicable specifications.
- (iv) There are no separate payments specified for interim supply of materials in the applicable specification.
- (v) The Contractor provides the Consultant with written consent of Surety to the interim payment, or with security in the form of an Irrevocable Letter of Credit in the amount of the total interim payment.

Interim payment will not imply acceptance of the materials by the Consultant.

1.14.2 INTERIM PAYMENT FOR SUPPLY OF MATERIALS

Interim payments will be based on actual Supplier invoices, or 50% of the applicable bid item incorporating the materials; whichever is less.

Interim payments for the supply of materials will be made monthly. Interim payment will be considered a portion of the unit price or lump sum price bid for the Work that incorporates the materials supplied. The interim payment will be deducted when payment is made under the applicable bid item or when all Work covered by applicable bid item has been completed.

1.15 ADJUSTMENT OF COMPLETION DATE AND LIQUIDATED DAMAGES FOR BRIDGE STRUCTURE WORK

The following amendments are applicable to the bridge structure portion(s) of the work only:

1.15.1 SECTION 1.2.19, ADJUSTMENT OF COMPLETION DATES, IS REVISED AS FOLLOWS:

- i) In the first paragraph of Clause 1.2.19(c)(vi), the words "roadway surface" are revised to "*Bridge Structure*".
- ii) The second sentence of the second paragraph of Clause 1.2.19(c)(vi) is deleted.
- iii) The last three paragraphs of Section 1.2.19 starting with "If an adjustment to the..." are deleted.

1.15.2 SECTION 1.2.20, FAILURE TO COMPLETE ON TIME, IS REVISED AS FOLLOWS:

- i) In Clause 1.2.20(i)(a) – "\$1,350.00" is replaced with "\$800.00".
- ii) Clause 1.2.20(i)(b) is deleted.

1.16 DURATION OF WORK AND SITE OCCUPANCY FOR BRIDGE STRUCTURE CONSTRUCTION

1.16.1 THE FOLLOWING SHALL APPLY TO THE BRIDGE STRUCTURE PORTION OF THE WORK ONLY:

1.16.1.1 The Contents of Section 1.2.21, DURATION OF WORK AND SITE OCCUPANCY, are replaced in their entirety with the following:

1.2.21.1 General

When the Contract contains a bid item for “Site Occupancy - Bridge Structures”, bidders shall indicate the number of Calendar Days required to complete the Bridge Structure Work under the “estimated quantity” column of the unit price schedule and extend that number of days times the unit price per day as shown, to get the total bid for “Site Occupancy - Bridge Structures”.

1.2.21.2 Calculation of Calendar Days for Site Occupancy

Calendar Days for Site Occupancy will be calculated as whole days. The assessment of Calendar Days for “Site Occupancy - Bridge Structures” will commence on the day of the first disturbance of the right-of-way for the bridge portion of the Work. Thereafter, every day will be counted as a Calendar Day for site occupancy with the exception of when:

- The Contractor is prohibited from working due to restrictions imposed by local bylaws after the contract has been awarded or as a result of directives from the Consultant or the Department.
- The Contractor is unable to work on the project, or works less than half of a normal working day for reasons of inclement weather or conditions resulting from inclement weather. A normal working day shall comprise the average duration worked by the Contractor on the proceeding 5 uninterrupted working days.
- The Contractor pre-schedules interruptions to continuous prosecution of the Work as a result of the desire to schedule certain phases of the Work at different times.
- The Contractor schedules employee time off subject to the conditions specified herein.
- The Contractor is working solely on preparing and installing temporary environmental measures as detailed in the department manual entitled "Environmental Construction Operations (ECO) Plan Framework.

1.2.21.3 Employee Time Off

The Contractor will be granted a maximum of eight non-charged days per thirty day period for the purpose of allowing employee time off, providing:

- The Consultant is given at least seven days notice.
- There is no construction ongoing which requires the presence of the Consultant.
- No more than five consecutive days are taken at one time.

The thirty day period will start at the commencement of work as defined above and any of the time-off days not taken in a specified thirty day period will not be permitted to be used in subsequent periods. When the estimated number of Calendar Days required to complete the project is less than thirty, the number of allowable days off for this purpose will be prorated.

1.2.21.4 Conclusion of Site Occupancy

Assessment of Calendar Days for Site Occupancy will cease entirely only once the entire Work has been completed and in the opinion of the Consultant, the project is ready for the construction completion inspection as detailed in Section 1.2.53, Construction Completion and Acceptance. Calendar Days for Site Occupancy will not be assessed during the completion of any deficiencies identified in the construction completion inspection.

1.2.21.5 Statements, Extensions and General

The Consultant will, on a weekly basis, prepare a statement for the Contractor showing the number of Calendar Days for Site Occupancy worked on the contract during that week. In the event that the Contractor disagrees with the number of Calendar Days for Site Occupancy shown on the statement, he shall within one week of the date of such statement, notify the Consultant in writing of reasons for the disagreement, otherwise the number of Calendar Days for Site Occupancy shown on the statement shall be considered final.

An increase in the number of Calendar Days for Site Occupancy to complete the Work will be considered for an increase in quantities, late delivery of Department supplied materials, design changes to the project, or any other reason which in the opinion of the Consultant is outside the control of the Contractor, or could not have been reasonably foreseen by the Contractor.

If the Contractor believes there is an entitlement to an extension of the number of Calendar Days for Site Occupancy required to complete the Work, he shall, prior to the completion of the Work, submit a written request to the Consultant setting out the reasons for the request, justifying the number of additional days required.

This provision for Duration of Work in no way negates or mitigates the conditions of Sections 1.2.14, Commencement and Scheduling of Work, 1.2.19, Adjustment of Completion Dates, or 1.2.20, Failure to Complete on Time.

1.2.21.6 Payment

Payment for "Site Occupancy - Bridge Structures" will be made as follows:

If the Contractor completes the bridge structure work in the exact number of calendar days entered in the "Site Occupancy - Bridge Structures" bid item, no payment will be made.

If the Contractor completes the bridge structure work in fewer Calendar Days for Site Occupancy than the number entered in the "Site Occupancy" bid item, a payment equal to the unit price per day as shown, multiplied by the difference between the estimated and actual number of Calendar Days for Site Occupancy will be made.

If the Contractor completes the bridge structure work in more than the number of Calendar Days for Site Occupancy entered in the "Site Occupancy - Bridges Structures" bid item, an assessment equal to the unit price per day as shown, multiplied by the difference between the estimated and actual number of Calendar Days for Site Occupancy will be made and charged to the Contractor. This assessment will be deducted from any monies due the Contractor.

1.17 LANE CLOSURE FOR BRIDGE STRUCTURES

1.17.1 GENERAL

In addition to the requirements of Section 1.2.21, Duration of Work and Site Occupancy, this contract contains a bid item for "Lane Closure - Bridge Structures".

Bidders shall indicate the number of Calendar Days during which travel lane widths will be restricted or lanes will be closed, under the "estimated quantity" column of the unit price schedule and extend that number of days times the unit price per day as shown, to get the total bid for "Lane Closure - Bridge Structures".

1.17.1.1 Calculation of Calendar Days

Calendar Days will be calculated as whole days. The assessment of Calendar Days will commence on the first day that the clear roadway is restricted in width and/or a travel lane is closed. Thereafter, every day will be counted as a Calendar Day with the exception of when:

- the Contractor is prohibited from working due to restrictions imposed by local bylaws after the Contract has been awarded or as a result of directives from the Consultant or the Department.

1.17.1.2 Conclusion of Lane Closure

Assessment of Calendar Days will cease entirely once the roadway is open to unimpeded flow of traffic with all the following conditions:

- Continuous smooth, paved intact travel surface.
- Curb to curb unobstructed clear roadway width.
- Traffic control removed and traffic fully restored.

1.17.1.3 Extensions

An increase in the number of Calendar Days for Lane Closure - Bridge Structures will be considered for an increase in quantities, late delivery of Department supplied materials, design changes to the project, or any other reason which in the opinion of the Department is outside the control of the Contractor, or could not have been reasonably foreseen by the Contractor.

If the Contractor believes there is an entitlement to an extension of the number of Calendar Days for Lane Closure - Bridge Structures, he shall, prior to the completion of the Work, submit a written request to the Consultant setting out the reasons for the request, justifying the number of additional days required.

1.17.1.4 **Payment**

Payment for Lane Closure - Bridge Structures will be made as follows:

If the Contractor restricts the roadway width or closes a travel lane for the exact number of Calendar Days bid for "Lane Closure - Bridge Structures", no payment will be made.

If the Contractor restricts the roadway width or closes a travel lane for fewer Calendar Days than the number bid for "Lane Closure - Bridge Structures", a payment equal to the unit price per day as shown, multiplied by the difference between the estimated and actual number of Calendar Days will be made.

If the Contractor restricts the roadway width or closes a travel lane for more than the number of Calendar Days entered in the "Lane Closure - Bridge Structures" bid item, an assessment equal to the unit price per day as shown, multiplied by the difference between the estimated and actual number of Calendar Days will be made. This assessment will be deducted from any monies due the Contractor.

1.18 SITE OFFICES FOR BRIDGE STRUCTURE CONSTRUCTION

1.18.1 SECTION 1.2.16, SITE OFFICES FOR BRIDGE STRUCTURE CONSTRUCTION

For this project, Section 1.2.16, SITE OFFICES FOR BRIDGE STRUCTURE CONSTRUCTION, is deleted in its entirety.

1.19 AMENDMENT TO SPECIFICATION 1.2, GENERAL, RE: COURSE OF CONSTRUCTION INSURANCE

1.19.1 FOR THIS PROJECT COURSE OF CONSTRUCTION INSURANCE IS OPTIONAL.

1.19.2 THE FOLLOWING IS ADDED AS THE SECOND PARAGRAPH OF CLAUSE (IV), OF SECTION 1.2.10, INSURANCE

Notwithstanding the optional status of Course of Construction insurance, and further to General Specification 1.2.46, DAMAGE TO WORK, the Contractor shall be solely responsible for damage to the bridge structure, bridge culvert, or building structure caused by the negligence of the Contractor, his employees, agents or sub-contractors.

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“Supplemental Specifications”

X	SUPPLEMENTAL SPECIFICATIONS	
	Specification	General Description
	6.15	Fish Capture and Release

6.15 FISH CAPTURE AND RELEASE

6.15.1 GENERAL

The Work shall include the capture, salvage and release of fish that are trapped or stranded as the result of the Contractor's operations, in accordance with Section 1.2.50, Environmental Management, of Specification 1.2, General.

The requirements detailed in the following specifications will be necessary only in the event that the watercourse is deemed to be fish bearing and that there is a likelihood that fish may be present at the time of construction.

6.15.2 MATERIALS

All materials required for fish capture, salvage and release shall be supplied by the Contractor.

6.15.3 QUALIFIED AQUATIC ENVIRONMENTAL SPECIALIST

The Contractor shall acquire the services of a Qualified Aquatic Environmental Specialist (QAES) as defined in Alberta Environment's Code of Practice for Watercourse Crossings to determine the presence of fish within the watercourse; and to perform the capture, salvage and release of fish as required. The Contractor shall have the option of obtaining the services of the Consultant's QAES to perform the capture, salvage and release Work, provided the Consultant's QAES is not a direct employee of the Consultant. The name and contact information of the Consultant's QAES will be provided by the Consultant upon request.

The Contractor shall not proceed with any Work which may affect trapped or stranded fish unless the QAES is on-site. The Contractor shall be responsible for all aspects of the fish capture, salvage and release operations; including but not limited to the following:

- Obtaining the Fish Research License from Alberta Sustainable Resource Development (SRD);
- Following polices regarding fish capture and release, including Alberta Fisheries Management Policy with respect to injuries to fish;
- The preparation of a written management plan that includes:
 - Site preparations for fish capture, salvage, and release;
 - Locations for fish capture;
 - Fish isolation methods;
 - Locations for cofferdams, nets, and other capture structures;
 - Ensuring that pump intake screens conform to all Regulatory requirements;
 - Locations for related equipment and system set-up;
 - Water depths required for fish capture, including drainage, or draw-down methods;
 - Methods of fish capture;
 - Fish release location;
 - Number of working days for fish capture activity;
- Ice removal, if required;
- The protection of the fish during all aspects of fish capture, salvage, and release;
- A final report as required under the Fish Research Licence.

6.15.4 SUBMITTALS

The Contractor's ECO Plan shall include a Fish Capture and Release Management Plan prepared by his QAES, and based on the requirements of Section 6.15.3 of this Specification. The QAES shall record all fish capture and release field activity, as well as the results of said activities. The QAES shall prepare a report in accordance with the Fish Research License. Copies of the report shall be submitted to the Consultant within 2-weeks of the completion of fish release.

6.15.5 FISH CAPTURE AND RELEASE

Fish capture shall be performed prior to dewatering, and in such a manner that will minimize the injury to the fish.

The Contractor shall not commence any fish capture, salvage and release work until the Fish Capture and Release Management Plan has been accepted by the Consultant. All work shall be carried out in accordance with the Fish Capture and Release Management Plan unless otherwise directed by the Consultant.

The Contractor shall ensure that an ice-free pool, sized to suit the QAES recommendations, is maintained throughout all fish capture and release operations.

All fish shall be captured within the area specified, and released at an acceptable location in the downstream water body.

6.15.6 PAYMENT

All costs associated with determining the presence of fish will be considered incidental to the Work, and no separate or additional payment will be made.

Payment for fish capture, salvage and release, if required, will be made in accordance with Section 1.2.25, Extra Work, of Specification 1.2, General.