

# ALBERTA TRANSPORTATION CONSTRUCTION BULLETIN #15/2004

## ALBERTA TRANSPORTATION GUIDELINES FOR ADMINISTRATION OF CONTRACT DESIGN CHANGE PROPOSALS

### 1. INTRODUCTION

Alberta Transportation's specifications provide contractors with the opportunity to submit an alternative or change to the department's tendered design. Such submissions are termed Contract Design Change Proposals (DCP's) and can only be submitted after the contract is awarded.

The contract requirements for DCP's are contained in Specification 1.2, General of the Standard Specifications for Highway Construction and Bridge Construction Specifications. This document is intended to provide guidelines to assist in the administration of DCP's.

### 2. THE ORIGINAL DESIGN FOR THE PROJECT

The department views its tendered designs as providing good value. However, the department recognizes that in some cases, contractors may possess knowledge of technology, construction methods, equipment or materials, or can react to current market conditions that, if applied to the project, will provide an equivalent or improved final product at a reduced cost.

The Department does not consider the submission of a DCP to imply that the tendered design prepared by the department's consultant is deficient or substandard. Accordingly, DCP's will be reviewed in terms of their merits rather than as a criticism of the original design concept.

### 3. THE INTENT OF CONTRACT DESIGN CHANGE PROPOSALS

The intent of DCP's is to allow and encourage contractors to take advantage of current market conditions and propose alternative designs that will result in one or more of the following:

- i) An immediate cost savings to both the department and the contractor.
- ii) An immediate benefit/value to the department in areas that may not be easily quantified, such as reduced traffic disruption, addressing landowner issues or environmental impacts.
- iii) A longer term benefit/value to the department by reducing long term environmental impacts or the costs for future maintenance or construction.
- iv) A longer term benefit/value to the department on future projects through the use of new technology (innovation).

Regardless of the cost savings or benefits to either party, a DCP will only proceed if the overall intent, integrity and quality of the project are maintained without an increase in total life cycle costs, and the construction schedule/completion date for the new project is acceptable to the department.

#### **4. DEPARTMENT'S GOALS FOR CONTRACT DESIGN CHANGE PROPOSALS**

The department encourages contractors to submit DCPs. The department's goals associated with the process are:

- (i) To encourage contractors to use new products, innovative construction techniques, and/or take advantage of current market conditions to present alternative designs that offer benefits to both the contractor and the department.
- (ii) To ensure that effective lines of communications are maintained between the department, the contractor and the department's consultant during the DCP process, thereby minimizing confusion, any misunderstandings, duplicated efforts or frustration between the parties.
- (iii) To ensure that a timely, objective and unbiased evaluation of the Proposal is carried out (*to this end, contractors must submit complete and detailed proposals and the department must undertake a timely and thorough review of the proposal considering all financial and other impacts and provide definitive guidance on the suitability of the concept*).
- (iv) To ensure that the new design is equivalent (or superior) to the tendered design in terms of service, performance, and durability. Additionally it is expected that the proposal will offer a cost benefit to the department and/or other benefits such as a reduced impact on the environment, a reduced impact on the travelling public, reduced construction time and/or a positive impact on future construction or maintenance.
- (v) To ensure that the role of the department's consultant in administering the "changed" project is clearly set out.

#### **5. GENERAL REVIEW PROCESS**

DCP's must be processed in an efficient manner in order for the full savings to be realized. The department desires a cooperative and effective approach between the contractor, the department's consultant and the department when considering any DCP submitted.

The details of the review process for a DCP may vary depending on the complexity, magnitude and scope of the DCP. Items likely to be impacted are:

- (i) the level of review necessary by the department on both the initial and detailed submissions;
- (ii) the role of the department's consultant in the review process, checking the design and on site supervisions/quality assurance;
- (iii) the amount of risk the department is willing to take on, given the magnitude of the cost savings and other benefits included in the proposal.

**Generally, the steps in the process are as follows:**

- Project is tendered.
- If there is a Project Design Brief and/or a Choose Design Report for the project, the department will make these documents available for viewing.
- Contract is awarded.
- Contractor advises the department's Project Sponsor of his intent to submit DCP.
- Contractor meets with the Project Sponsor to discuss the concept and scope of the DCP.

- Project Sponsor assembles DCP review team if the impending DCP is complex.
- Contractor provides the initial DCP submission and non-refundable deposit to the Project Sponsor.
- Project Sponsor (and DCP Review Team if necessary) reviews DCP.
- Project Sponsor initiates any negotiations necessary to clarify or finalize the terms of the DCP, including technical details, construction scheduling and price.
- Project Sponsor communicates acceptance or rejection of the DCP to the contractor.
- If accepted, the contractor proceeds with the detailed design submission if the DCP is complex and provides the second non-refundable deposit.
- Department processes a change to the contract documents. All contractual terms of the DCP are finalized in writing, including the new contract price. The role of the department's consultant in administering the project is established.
- Project Sponsor processes scope change to Consultant Agreement if necessary.
- Contractor proceeds with detailed design if the DCP is complex.
- Any design checking and/or changes to QA testing performed by the department's consultant will be as noted in the scope change, if required.
- Construction proceeds.

## **6. REVIEWING THE PREVIOUS DESIGN OPTIONS**

Contractors are encouraged to contact the department to find out if a particular design, concept, material, product or technology had already been considered and discarded by the department or the consultant at the preliminary design stage. To assist the contractor, the department will make its "Choose Design Report" available for viewing by the contractor during the tendering period.

The fact that a particular design had previously been discarded does not necessarily mean the department would automatically reject it in a DCP. Current market conditions or specialized work methods, materials or technology that were not readily available at the time the original design was completed may make that design viable at the time of the DCP.

## **7. INITIAL MEETING BETWEEN CONTRACTOR AND DEPARTMENT**

The contractor should meet with the Project Sponsor and the department's consultant prior to the submission of a DCP. If the intended DCP is complex, the contractor shall also have his design consultant attend.

The purpose of this meeting is to discuss the nature of the contractor's intended design change, with the contractor presenting adequate information to convey the intent of the DCP to permit or form the basis for discussion. Typical issues to be discussed at this stage would be:

- The scope of the design change;
- Estimated new price;
- The intended roles and interaction between each of the parties in the process;
- Timelines for completing the evaluation of the DCP;
- Significant contract issues such as construction schedule, "site occupancy", and any impacts on the specified contract completion date and/or interim completion dates;

- The specific requirements and level of detail required for the contractors initial submission.

Following the pre-submission meeting, the Project Sponsor will start assembling the DCP Review Team, if necessary.

## **8. INITIAL SUBMISSION BY CONTRACTOR**

The contractor's initial submission must contain sufficient detail to allow the department to properly consider the DCP.

The initial submission must include sufficient detail to clearly demonstrate that the proposed design will meet department objectives and/or standards and will provide a finished product that is equivalent or superior to the tendered design. In addition to detailed sketches (or drawings) of the proposed work and a revised Project Design Brief, an itemized list of deliverables and contract issues is required.

Typically, this list would include the products being used, the level of testing and site supervision to be performed by the contractor, key subcontractors and design consultants, timelines for the completion of the proposed work, key milestone dates, any impacts or changes to "site occupancy" and the contract completion date, any environmental or traffic accommodation impacts and a list of any new contract terms and a new schedule of prices (and total price).

The contractor must also indicate the timelines within which the review/acceptance of the DCP must be completed in order for the DCP to proceed as planned and the savings to be achieved.

Any submissions which have insufficient detail or which clearly do not meet department objectives and/or standards will not be considered.

## **9. REVIEW OF CONTRACTOR'S INITIAL SUBMISSION**

The department will bear the cost of reviewing the contractor's initial submission.

The Project Sponsor will lead the review of the DCP. The membership of the Review Team will depend on the complexity of the DCP, but would typically include representation from the department's Technical Standards Branch, the project consultant other applicable department experts, all as required.

The department may at its discretion retain the services of a separate engineering consultant in reviewing the initial submission if the design change is believed to be beyond the scope of expertise of the department and its project consultant.

If the contractor's initial submission appears reasonable, but changes are required, the Project Sponsor will arrange a meeting between the contractor and the DCP Review Team to resolve or negotiate the outstanding issues.

The timelines and requirements for the contractor's detailed submission and the Project Net Cost Savings must also be established at this stage.

## **10. CALCULATING PROJECT NET COST SAVINGS**

The contract specifications provide a formula for calculating the Project Net Cost Savings (PNCS) and sharing the amount between the contractor and the department.

Typically, the PNCS should be finalized as soon as possible following acceptance of the contractor's initial submission. This will require both the contractor and department to estimate some of their respective costs such as the costs for preparing and checking the detailed submission and any additional field inspection or testing required as a result of the DCP. Once established, the PNCS will not be changed, regardless of the actual costs of these items.

As an alternative to using the specified formula to calculate Project Net Cost Savings, the department and the contractor may agree to a fixed price for the new work and the savings would not be shared.

If during the course of finalizing the detailed DCP submission or during construction, additional work is necessary for the new design, it shall be handled as follows:

- (i) if the additional work is necessary to satisfy that the intent and scope of the new design is equivalent to the tendered design, the cost of the additional work will be borne by the contractor,
- (ii) if the additional work is requested by the department to enhance the new design beyond that of the tendered design, the cost of the additional work will be borne by the department.

## **11. SUBMITTING, CHECKING AND FINALIZING THE CONTRACTOR'S DETAILED SUBMISSION**

The Department will not bill the contractor separately for any review of the contractor's detailed submission performed by the department or the department's consultant. This cost is to be estimated by the department at the time the DCP is accepted and the PNCS is calculated.

The preparation of the new design drawings can be time consuming and could impact the construction schedule. Therefore, it is necessary to have the roles of each party in the review process clearly defined to ensure there are no undue delays (e.g.: the process for submitting the detailed drawings and communicating any concerns noted in the drawings back to the contractor or his consultant must be clearly set out).

## **12. INCORPORATING THE DCP INTO THE CONTRACT**

All changes to the contract resulting from the DCP must be agreed to in writing by the department and the contractor. This must be done as soon as possible after the DCP is accepted. The Project Sponsor will provide the list of changes to the department's Program Management Branch who will prepare the necessary documents and arrange for signatures.

In the event the DCP is complex and the new design drawings are necessary for the final contract change package, and interim agreement will be used covering the new contract terms and price schedule. Once the new design drawings are complete, they will be incorporated into the final contract change documents and PMB will arrange for the necessary signatures.