

A. PROJECT DESCRIPTION

To be updated with specific projects.

B. INTRODUCTION

The Consultant shall serve as an Independent Cost Estimator (ICE) to develop an Opinion of Probable Cost (OPCC) and construction schedule at three pricing milestones (**Pricing Milestones**) during the Preconstruction Phase. The Pricing Milestones correspond with the three design milestones: Baseline, Intermediate and Final.

The Consultant shall work as a member of the overall team during the Preconstruction Phase on collaborative delivery projects. Other members working with NDOT and providing Preconstruction Services (**PCS**) are the Contractor, Designer, and Owner's Representative. All will work together to develop, implement, and maintain a spirit of cooperation and open communication so that the goals and objectives are clearly understood, problems are resolved promptly, and upon completion, the Project is deemed a success. PCS will continue until NDOT accepts or rejects the Guaranteed Maximum Price (GMP) from the Contractor.

As a member of the project team, the Consultant offers the skills and knowledge to provide:

- a. Information on constructability, maintenance of traffic, and other design input.
- b. Independent quantities, pricing, labor, durations, sequencing, and equipment needed for construction of each Project.
- c. Identification and input on project risks and mitigation strategies including costs, and schedule impacts.

C. OVERVIEW

The Consultant tasks during the Preconstruction Phase include, but are not limited to, the following:

- a. Attend an Initial Project Scoping Workshop.
- b. Participate in design coordination meetings with NDOT and the project team.

- c. Review and evaluate risk management strategies and provide input on Risk Register items.
- d. Provide recommendations to NDOT on each aspect of the planning, design, and proposed construction.
- e. Review, develop, and evaluate innovations and other potential strategies to make a better Project.
- f. Document impacts in a matrix (including cost savings, other benefits, and schedule) associated with proposed innovations.
- g. Participate in the pricing milestone process, anticipated to occur at Baseline, Intermediate, and Final design plans and specifications submissions.
- h. Develop an Opinion of Probable Construction Cost (**OPCC**) and corresponding total bid estimate, prepare and submit a Project Baseline Schedule, as well as provide input into the total Project budget, and review and provide input on the Contractor's schedule during each Pricing Milestone.

D. PROJECT MANAGEMENT

The Consultant shall perform project management duties throughout the Preconstruction Phase, in accordance with the schedule below such as:

- Monitor project schedules,
- Monitor workload assignments and internal cost controls
- Prepare project correspondence with NDOT and maintain its project records.

This task and duties shall include the following:

- a. Periodic invoices and progress reporting.
- b. Coordination with NDOT and its representatives.
- c. Quality control and general quality management of the services.

E. MEETINGS

Project Scoping Workshop

This workshop is intended to introduce project team members to one another. This

workshop will be the start of the collaborative environment and form the project team.
NDOT will present information known about the Project.

The Project Scoping Workshop typically includes the following agenda items:

- a. Introduction of the project team and partnering protocols and approach.
- b. Communication protocols.
- c. Introduction of the Project stakeholders as determined by NDOT.
- d. Discussion of Project elements, such as Project status goals, constraints, risks, and anticipated milestones.
- e. Process for providing design input, including analysis, evaluation, and presentation.
- f. The process for evaluating alternative strategies and innovations.
- g. Discussion of the risk identification, valuation, and assignment processes and discussion of preparation, updating, and population of the Risk Register.
- h. Open discussion.

Progress and Partnering Meetings

The Consultant shall participate in progress and partnering meetings as scheduled by NDOT.

That Consultant shall scope for bi-weekly progress and partnering meetings. These progress and partnering meetings will be used to coordinate and report on the work effort and resolve issues. The Consultant shall be prepared to discuss its reservations, ideas, and challenges.

Meeting notes prepared by others will include details discussed and action items and assignments relating to the meeting within one week of the meeting. The Consultant shall provide comments to the meeting notes within one week of receiving notes.

The agenda and discussion topics for these meetings typically include the following:

- a. Review of action items and activities from previous meetings.
- b. Design and design coordination.

- c. Constructability and construction planning (including MOT).
- d. Risk Register, including mitigation, and assignment.
- e. Environmental permitting, planning, environmental compliance, and regulatory agency topics.
- f. Issues and challenges with potential solutions and final resolution.
- g. Preconstruction Services Schedule updates.
- h. Action Items.

Impromptu Meetings

The Consultant shall attend and participate in ad hoc meetings as may be requested by NDOT. These meetings shall occur outside of regularly scheduled progress and partnering meetings. Impromptu meetings will be held virtually unless otherwise requested by NDOT or the Consultant.

NDOT expects this task shall include the following:

- a. This task allows for [6] impromptu meetings between NDOT and the Consultant.

Initial Cost Workshop

The Consultant shall participate in a meeting with NDOT, the pricing facilitator, and the Contractor to establish input standards to be used in the pricing process. The meeting will establish a plan to communicate during the pricing process and prepare a common Work Breakdown Structure (WBS) and the foundation for documenting the approach to pricing in order to create a foundation for estimation for the Project.

The Consultant shall attend and actively participate in this meeting with the project team to discuss cost and pricing development and assumptions and inputs used to create the cost model and each OPCC.

The agenda and discussion topics for these meetings typically includes:

- a. Identification of timing of future pricing meetings
- b. Identification of roles
- c. Review of pricing milestones and expectations

- d. Rules for the construction schedule such as work week, weather days, work calendar, etc.
- e. Approach to develop WBS
- f. Preconstruction costs (who will carry these costs – such as row, utilities, etc.)
- g. Labor Rates
- h. Equipment Rates
- i. Approach to mobilization
- j. Other pricing details

Initial Risk Workshop

The Consultant shall attend an Initial Risk Workshop. The Consultant shall provide input to develop a Risk Register as the primary means for documenting each identified risk affecting the Project.

F. RISK MANAGEMENT

The Consultant shall participate in and provide input at subsequent risk workshops that will occur as part of the pricing process at each Pricing Milestone. The Consultant shall help implement and support risk avoidance, reduction, and mitigation strategies. The Risk Register will be maintained by NDOT.

Deliverable: The Consultant shall provide input as required to support the risk and pricing process. This could include the associated value, savings, and cost of risk avoidance, reduction, and mitigation strategies.

G. COST ESTIMATING

The Consultant shall develop an OPCC at each Pricing Milestone and provide input to assist NDOT in determining the total project budget needs. The Consultant's OPCC and its supporting information will not be shared (commonly referred to as "closed book") to the Contractor which is fully shared (commonly referred to as "open book"). NDOT's pricing facilitator will be the gatekeeper for the Contractor estimate and will share it with Consultant as required at a certain point of time during each pricing milestone. The Consultant's OPCC shall contain assumptions, contingency, risk, and approach to the estimate that are fully identified and delineated. The Consultant shall be responsible for developing independent quantities by working with the Contractor to develop a WBS that is aligned with NDOT standard bid items.

The Consultant shall participate in quantity and price reconciliation meetings to resolve quantity and price differences in accordance with the Pricing Manual or as otherwise determined by NDOT. During price resolution and reconciliation meetings, the Consultant shall provide conflict management support regarding its “closed book” cost model to the “open book” cost model of the Contractor to help resolve differences.

The Consultant shall prepare and update its cost model. The Consultant shall submit and include backup documentation with each iteration of its costing model used to prepare the OPCC, which documentation shall include but is not limited to the following:

- a. Quantity take-offs.
- b. Material costs, equipment costs, labor costs, general conditions costs, production rates, and total cost. The Consultant shall work with the Contractor to obtain the necessary information to establish these costs.
- c. Cost associated with fixed equipment, site improvements, utility and equipment installations necessary to complete the work using the same assumptions as the Contractor Team.
- d. Allocated general and administrative expenses, bonds, taxes, and insurance.
- e. Risk allocation cost from the Risk Register.
- f. Memoranda, narratives, and other information included by the Consultant to arrive at the price shown, including all assumptions and a breakdown of all allowances.

H. SCHEDULE DEVELOPMENT

The Consultant shall create and update an independent Project Baseline Schedule (**PBS**) for the construction work to compare to the Contractor’s schedule. The Consultant shall address NDOT comments as relates to the iterative Project Baseline Schedules, which will be updated by the Consultant at the Intermediate, and Final Pricing Milestones and for scope changes that necessitate changes in schedule.

Deliverable: The Consultant shall provide detailed schedules and narrative in advance of each Pricing Milestone. The schedule shall be submitted to NDOT electronically as a pdf and software file.

The schedule narrative shall include, but not limited to:

- a. Documenting critical path elements of the schedule.
- b. Critical assumptions and decisions that may impact schedule adherence.

- c. Construction phasing or sequencing and long-lead time items.
- d. Acceleration opportunities and the cost or savings associated with each.

I. CONSTRUCTABILITY REVIEW & INNOVATION DEVELOPMENT

The Consultant shall participate in Project constructability review and innovation discussions throughout the term of the Preconstruction Phase and shall provide comments regarding constructability and actively propose alternative technical concepts or innovations.

The Consultant shall provide electronic and hard copies of written reviews and redlined drawings, plans, and specifications.