

RFP Number: _____

Project Title: Accelerated and Innovative Project Delivery Utilizing
Construction Manager/General Contractor (CM/GC)

Due Date: _____

Address: _____

Location: _____

Point of Contact: _____

Office Phone: _____

Example Document Only

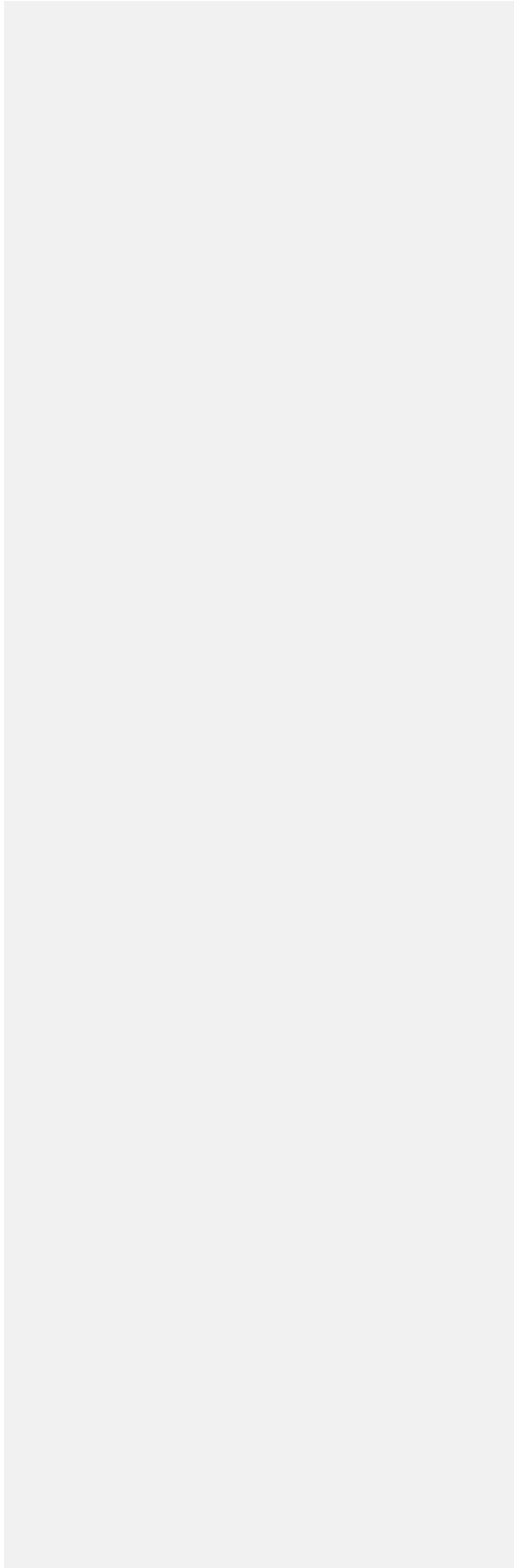


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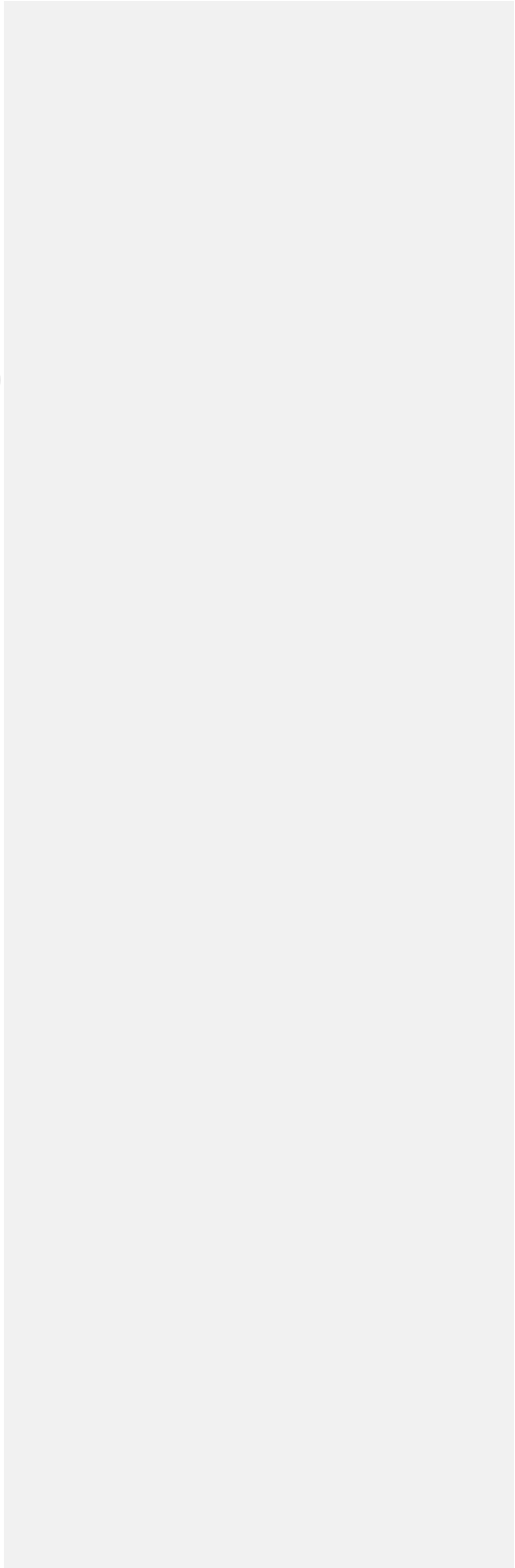
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Attachment A - CM Pre-Construction Activities List

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Example Document Only

Section I. Administrative Information

I. PURPOSE

This Request for Proposal (RFP) is meant to provide prospective Offerors with sufficient information to enable them to prepare and submit proposals for consideration by Owner for Construction Manager/General Contractor (CM/GC) Accelerated and Innovative Project Delivery.

It is important that Offerors read this document in its entirety including the attachments to understand Owner's viewpoint of the CM/GC delivery method before developing their proposal.

The intent of this RFP is to rapidly and cost effectively deliver a program of projects using one **Construction Manager/General Contractor**. The CM/GC along with its named subcontractors (functioning in this dual capacity) will be referred to as the CM for the remainder of this document. The bundling of a program of projects will allow the **Project Team** to strategically and innovatively plan, fund, permit, design, and build in a manner which constructs the greatest amount and length of projects within the current available funding. The **Project Team's initial focus should be to identify and begin construction on projects or portions of projects** that are potentially "shovel ready" and/or can quickly be made "shovel ready" while **simultaneously** working on other projects within the program that are awaiting such things as: NEPA clearance, permitting, right-of-way, funding, third party approvals (i.e., FHWA, Resource Agencies, etc.). The Owner's Intent is that the CM will begin construction within two months after the Notice to Proceed. The Owner is requesting the Offerors to propose on the CM/GC delivery of a suite of projects using multiple early work packages in an effort to meet the accelerated schedule.

Owner seeks the best innovative solutions to accelerate construction and deliver a suite of projects significantly under budget while accomplishing the following: enhancing value and quality; building the most projects possible within the available funding i.e., stretching the dollars to construct the greatest amount and length of projects within the current available funding, using the cost savings captured to complete the projects. The targeted goal is to complete the suite of projects under budget with on-time delivery through innovations proposed by the **CM**.

II. CM/GC PROJECT DELIVERY

Construction Manager/General Contractor (CM/GC) delivery method is an integrated team approach to the planning, design and construction of the project. The successful Offeror providing CM/GC delivery applies their professional management capabilities, Construction Manager (CM), during the planning and design of a project (i.e. preconstruction phase). In addition to aiding the preconstruction process, the selected CM prepares and submits a Guaranteed Maximum Price (GMP) for the labor, equipment, and materials required to construct a project. During the construction phase, the **CM provides traditional construction services functioning as the prime General Contractor (GC)** responsible for completing the work on schedule within the guaranteed maximum price. The CM/GC is directly

supported throughout both phases, i.e., the preconstruction and construction phase, by their Sub-Contractors identified by company name and specialty within the Proposal.

With CM/GC, an Owner “custom-builds” its entire team, including subcontractors to properly fit the specific needs and objectives of each project. A unique partnership is formed with the Owner, CM, subcontractors, Independent Cost Estimator (ICE), and the Design and Inspection Professionals (**Project Team**) meeting the project and stakeholder objectives of shortening project duration, providing significant risk identification and mitigation, increasing utilization of innovation design/construction techniques, and finding and resolving constructability issues in advance of construction, identifying / addressing stakeholder needs and concerns, and reducing overall construction costs.

The CM is selected to provide construction expertise, construction management, and to be contractually responsible for price, schedule, and quality during construction. Under separate contracts, a Design Consultant is selected to prepare the designs, and simultaneously an Independent Cost Estimator (ICE) is selected to prepare an Independent Cost Estimate (ICE) in order to provide “checks and balances” for the CM provided construction costs, production rates, material supplier / subcontractor costs, phasing / schedule, etc. The CM begins the project by providing assistance during the preconstruction phases concerning constructability, pricing, scheduling, staging and phasing, means and methods, efficiencies, material procurement, risk identification/mitigation, early work packages, stakeholder issues and concerns, etc. The CM is not authorized to proceed into construction unless the Owner agrees that the price and schedule provided, as part of a guarantee to complete the project, or a portion of the project, (and independently evaluated by the ICE and team) are fair, reasonable and defensible.

The fast-track nature of CM/GC requires a short-term need for increased plan production rates. The Designer must keep pace with the acceleration and changes proposed by the team as well as multiple early work packages i.e., “mini” GMPs. The CM/GC evaluation process is designed to ensure that the CM possess the necessary resource skills, personnel, systems, and experience to manage the work in a manner that reduces the disruption to the travelling public and results in a high quality construction. The CM will engage in detailed discussions over key constructability issues, contract packaging, phasing of the work, Owner’s available budget, material availability and pricing, stakeholder requirements, as the design is finalized - thereby reducing the risk that those issues would impact the project during construction. In addition, prospective CM’s will be encouraged to indicate their abilities to use accelerated and innovative construction techniques for each specific project and their ability to use a local workforce.

III. LOCATION

The _____ Indian reservation is located in _____ County within the northern section of western _____, 65 miles west of _____. _____ is home to about _____ enrolled tribal members. Most of the current residents reside in four communities located west to east in the northern section of the reservation. These communities are identified as _____.

_____ Reservation is linked with the rest of _____ by Interstate _____ and _____ which runs east to west across its northern section; NM 117 runs north-south near the western boundary of the reservation.

III. PROJECT TIMELINES

The Owner is requesting the Offerors to propose on the CM/GC delivery of a suite of projects using multiple early work packages in an effort to meet the accelerated schedule. **Only those Offerors, which have the resources to deliver on or before the deadlines outlined in Section II, Table 2 should respond.**

IV. SCHEDULE OF ACTIVITIES

1. Issue Public Notice for RFP – _____
2. Mandatory Pre-proposal Meeting and Site Visit – _____
3. Deadline for Questions – _____
4. Deadline for Answers to Questions _____
5. Proposal Submission Deadline – _____
6. Proposals Reviewed by Selection Committee – _____
7. Approximate Face to Face Interview Date – _____
8. Approximate Selection Date - _____
9. Approximate Contract for Services – _____
10. Notice to Proceed – _____

V. REQUEST FOR PROPOSAL

All interested Offerors are invited to submit a proposal in accordance with the specifications, requirements and dates set forth herein. The Owner intends to award a contract to the Offeror, who, following the criteria outlined below, best meets the objectives of the RFP. The Owner reserves the right to reject any and all proposals.

Inquires

Prospective Offerors may make written or verbal inquiries concerning this RFP to obtain clarification of requirements. No inquiries will be accepted after _____ at 4:00 p.m. Inquiries should be direct to:

_____, Purchasing Agent
Phone: _____
E-mail: _____

Addendum or Supplements to Request for Proposal

In the event it becomes necessary to revise any part of this RFP, an addendum will be provided and posted to the website at _____ under the Procurement Department. It is the responsibility of each Offeror who received the original RFP to download and print the addendum(s).

MANDATORY PRE-PROPOSAL MEETING AND SITE VISIT:

A mandatory Pre-Proposal Meeting will be held on _____ from 9:00 a.m. to 12 p.m. at the _____, located at _____. At 1:00 p.m., a mandatory site visit will be conducted. The Site visit is expected to take until approximately 4 p.m. Project locations throughout the reservation will be visited and discussed at that time.

Please arrive promptly! All proposers must have an employee of their firm sign-in and attend the mandatory pre-proposal meeting. Failure to do so may deem your proposal non-responsive.

Personal Protective Equipment (PPE): For your safety, all attendees shall bring safety vests and wear closed-toed shoes.

Proposal Submission

Each proposal must be identified with the RFP number, project title, Offeror name and address, due date and time. A letter of transmittal shall be provided with each proposal. All proposals must be stapled in the upper left-hand corner. No plastic binders are necessary. A proposal may be withdrawn prior to the due date and time by written request. Any proposal not withdrawn by the due date shall constitute an irrevocable offer. The Offeror is responsible for all costs incurred by Offerors prior to issuance of a fully executed contract. All material submitted regarding this RFP will become the property of Owner and will only be returned to the Offeror at the Owner's option.

One (1) original and seven (7) copies of the typewritten proposal must be received on or before _____. Offerors mailing their proposals must allow sufficient mail delivery time to ensure receipt of the proposal by the time specified. Late proposals will not be considered under any circumstances and will be returned. The proposal package should be delivered or sent to:

Acceptance of Proposal Content

The contents of the proposal of the successful Offeror, and the RFP may become all or part of the Scope of Work and as such contractual obligations. Failure of the successful Offeror to accept these obligations in a contract may result in cancellation of the award.

Selection/Procurement Process

A single Offeror will be selected through a best value selection process. Interested Offerors will submit a RFP response. A Selection Panel will evaluate each response according to the selection criteria set below. The Owner expects to create a short list of at least three, but not more than five Offerors to conduct formal interviews. The Owner will select the Offeror based on the RFPs received and formal interviews conducted. The Owner may conduct a due diligence review on the Offeror receiving the highest score.

The Owner will enter into negotiations with the selected Offeror and execute a contract upon completion of negotiation of fees and contract terms.

If the Owner is unsuccessful in negotiating a contract, the Owner may then negotiate with the next qualified Offeror until a contract is executed, or the Owner may decide to terminate the selection process. Once a contract is executed with the successful Offeror, the procurement is complete.

Award of RFP/Right to Reject

The contract will be awarded to the successful Offeror whose proposal, conforms to the RFP, and is most advantageous to the Owner. The Owner reserves the right to reject any and all proposals and to waive informalities and irregularities in the proposals received and to accept any portion of any proposal or all items proposed if deemed in the best interest of the Owner.

Contents of Submittal

Each Offeror shall submit a proposal that fully addresses the evaluation factors contained in this solicitation and complies with the preparation and submission instructions contained in this provision. Offerors should carefully review this section and its relationship to the selection criteria prior to commencing proposal preparation.

When Offerors list personnel, the Offeror is agreeing to make the personnel available to complete work on the contract at whatever level the project requires. Personnel changes will be reviewed by Owner to assure the replacement is equally qualified and has comparable experience. Owner will only allow changes in key personnel including subcontractors when caused by circumstances outside the control of the Offeror (i.e., employee leaves employment with the **CM** and subcontracting company). Changes in key personnel for the convenience or benefit of the **CM** and/or subcontractor will not be allowed. Key personnel will consist of the **CM**'s project manager, construction superintendent, lead estimator, chief scheduler, and

subcontractors. Key personnel including subcontractors listed in this proposal shall have binding decision making and signature authority for the company that they represent. Key decision makers (with this binding and signature authority) are required to participate in all regularly scheduled, as well as all critical, partnering, project, scheduling, design, and milestone meetings.

Offerors shall base their Proposals on performing all work in accordance with this RFP. The proposals shall provide appropriate exhibits, graphics, drawings, schedules, cost models, and text to reflect consideration of the evaluation factors and RFP requirements. Discussion information should be concise and specific to this project. Excessive detail will not be considered positively in the evaluation.

Proposals shall not exceed 25 single-sided pages of 8-1/2" x 11" size using Times New Roman 11 point font. All pages must be numbered. Organizational charts and resumes are not included in the page limit. Additional pages consisting of photos, brochures or other pre-printed material may be submitted as long as the exact item to be incorporated is identified. This material may not exceed an additional 7 pages. Schedules, site maps, or charts can be submitted on single sided sheets up to 11" x 17". Proposals shall be organized as follows and meet the section page limits depicted below:

- A) Cover Letter (2 pages) – Describes overall plan for successfully delivering the project bundle.
- B) Proposal
 - 1) Section 1 – Project Innovations and Associated Cost Savings, (7 pages)
 - 2) Section 2 - Construction Management Plan (Preconstruction and Construction Phases), (3 pages)
 - 3) Section 3 – Personnel Qualifications, Experience, and Capability both **CM** and Subcontractors (1 page summary - Organizational charts and resumes are not included in the page limit) including plan describing the incorporation of the local work force
 - 4) Section 4 - Contracting Plan (5 pages)
 - 5) Section 5 - Linear Schedules and Early Work Packages (2 page)
 - 6) Section 6 - **CM** and Subcontractor's Past Performance & Experience (3 pages)
 - a) Examples of Innovative Work (3 pages. No project discussion shall be longer than one page)
- C) Appendices:
 - Appendix A - Proposed Schedules (Does not count towards page limit)
 - Appendix B - Critical Issues (Does not count towards page limit)
 - Appendix C - Resumes (One page per position. Does not count towards page limit)

Other Project costs

The Owner has a \$25 business registration and license fee (an annual fee), 7% Gross Receipts Tax on the total contract amount and 6.5% business property tax for all equipment to be utilized within the jurisdiction of the Owner with a Net Book Value in excess of \$50,000.

Technical Selection Criteria

(1) Project Innovations with Associated Cost Savings (40 points)

The Owner seeks the best innovative solutions to accelerate construction and deliver a suite of projects significantly under budget while accomplishing the following: enhancing value and quality; building the most projects possible within the available funding, i.e., stretching the dollars to construct the greatest amount and length of projects within the current available funding, using the cost savings captured to complete the suite of projects. The targeted goal is to complete the suite of projects under budget with on-time delivery through innovations and efficiencies proposed by the **CM** and its subcontractors.

With this in mind, the Offeror will demonstrate how they can successfully deliver the suite of projects.

- ✓ Describe your understanding of the suite of projects, how you will use innovation to stretch the funding to complete the suite, and how you will deliver projects simultaneously for on-time delivery.
- ✓ List specific innovations for the suite of projects illustrating potential cost reductions, schedule acceleration, risk reductions, and improved quality your team can deliver.
- ✓ Identify critical project issues and solutions on how your team will mitigate them.
Critical project issues considered are constructability concerns, risk areas affecting the delivery, design concerns, permitting, utilities, material availability, project costs, and 3rd Party Stakeholders for the suite of projects, etc.

(2) Construction Management Plan (Preconstruction and Construction Phases) (15 points)

The Owner seeks a **CM** that understands this delivery method and can use it effectively to deliver the suite of projects. A proactive approach to construction management, cost modeling, and risk mitigation is required for a successful CM/GC Project.

- ✓ Outline in detail how you will effectively manage this specific suite of projects to get them "off the books" and begin construction on the first work package within the two months of Notice to Proceed.
- ✓ Provide a preliminary linear cost and resource loaded schedule to demonstrate your construction approach to the suite of projects. Assume the completion dates provided in Section 2, Table 2. Your construction approach should identify any critical decision points for meeting or advancing the enclosed schedule and budget.

(3) **Personnel Qualifications, Experience, and Capability of both the CM and its Key Subcontractors (15 points)**

The Owner seeks an Offeror that will use its organization, subcontractors, and the CM/GC delivery method to ensure successful completion of the suite of projects.

- ✓ Provide a graphic organizational structure chart of the Offeror's firm. Ensure individuals assigned to this project are clearly identified;
- ✓ Provide a graphic organizational chart depicting how the CM will manage the Suite of Projects including subcontractor's roles. Ensure individuals assigned to this project are clearly identified;
- ✓ Provide a graphic organizational structure chart for each your key Subcontractors. Ensure individuals assigned to this project are clearly identified. (Note: Specialty Subcontractors should be selected for inclusion by the Offeror based on qualifications, engaged in both preconstruction and construction phases of the work, and will not be allowed to be switched out between phases).
- ✓ The organization charts above must identify position titles, names, and the Offeror's proposed percentage of time that each of the key personnel will be dedicated to the Project.
- ✓ Identify the individuals on the charts above that have binding decision-making and signature authority for their organization on this project (authority for the CM and separately for each individual Subcontractor);
- ✓ Identify members of your team by name that you commit to have consistently attend the weekly project progress meetings as well as all other critical meetings. (Note: Decision-makers with full authority to bind their company to a course of action or work without further approval is considered essential at the weekly meetings for both the **CM** and key Subcontractors)
- ✓ Provide supporting resumes and two references for each position listed below. References must have been directly involved, as a representative of the owner, in work performed by the key personnel in the last ten years.
 - Principal of the Company – The Offeror **must** show a significant commitment of a Principal of the Offeror's firm as well as for each Subcontractor to the Project. These individuals will actively participate in all critical project meetings and executive team progress meetings (held between top leadership of the Owner, **CM**, Subcontractors, Independent Cost Estimator, Construction Inspectors, and Design and Inspection Professionals, and Sub Consultants).
 - Senior Project Manager - The Senior PM **must** have experience in leading delivery of projects using methods other than low bid (design-bid-build) and will have experience in the delivery of projects making use of the CM/GC or other alternative contracting methods similar to this Suite of Projects.
 - Senior Project Construction Manager / Superintendent - The Senior CM/Superintendent **must** have relevant experience in leading bridge, roadway, and maintenance projects that included work of a similar scope, nature, and

Commented [VP1]: List requested is dependent on project.

complexity as the Project.

- Project Lead Estimator – The Project LE **must** be an experienced construction cost estimator including experience assessing price and risk as well as discussion of assumptions using open book pricing that were utilized to derive the proposed pricing. Must be experienced in developing common standards in which to compare the ICE's estimates with the CM's estimates and cost models.
- Project Scheduler – Linear (resource loaded) schedules are to be utilized by the CM. The PS **must** demonstrate relevant experience on projects of similar complexity and linear cost and resource loaded production based schedules.
- Project Structures Manger - The Project SM **must** have relevant experience on bridge projects that included work of a similar scope, nature, and complexity as the Project.
- Up to three other key positions as determined by the Offeror for pre-construction and construction services
- Key Subcontractors – The Subcontractors **must** have relevant experience on their specialty work of similar scope, nature, and complexity.

Resumes should specifically address the following:

- Role in delivering past CM/GC or alternative contracting projects;
- Experience working in a collaborative environment in both the pre-construction and construction phases;
- Experience analyzing and generating innovative alternatives and evaluating using real time pricing;
- Experience being an advisor to an Owner.

(4) **Workforce (10 points)**

The Owner highly encourages employment of a local workforce and local businesses to deliver a substantial portion of this suite of projects. Local is defined as having residence or an existing significant place of business located within the electoral and taxing boundaries of _____ County. Proposers will be evaluated based on their approach, creativity, and their demonstrated commitment to maximizing use of local residents, local material suppliers and local specialty contractors to deliver this suite of projects. Your approach will lay out which steps you will commit to as a company to ensure that the local individuals and local businesses are given the maximum opportunity to participate in the performance of this contract.

- ✓ Outline your approach to locating and maximizing inclusion of a local workforce, suppliers and subcontractors in the project, i.e., job fairs, breaking construction plans into small packages that enable the local trades to easily complete, etc.
- ✓ Identify potential "on the job" training/mentoring opportunities you envision for the Project.
- ✓ Include relevant examples of past project experience in which substantial local

participation has been achieved, with specific project data listing the percentage of local businesses under contract versus the total cost of the work, as a percentage of the overall construction contract, i.e., 50% of the overall final contract value went to the locals.

- ✓ Provide the name and title of the individual on the **CM's** team who will be responsible for overseeing efforts to reach out to and assist individuals and local businesses to compete for work and to successfully perform as integral members of the **CM's** team

(5) Offerors Past Performance & Team's Experience with Similar Work (10 Points)

Owner is seeking Offerors with demonstrated performance using alternative delivery methods.

- ✓ Explain why the proposed team is best qualified to make this CM/GC bundling successful.
- ✓ Include any past experience (a) working with owners on collaborative problem solving and (b) mitigating project risks, including schedule risk.
- ✓ Provide up to three examples of your most relevant transportation projects of similar size and scope completed in the last 5 to 7 years where one or more of your proposed team members were involved. Preferred examples are projects using the CM/GC or Design-Build delivery methods. The project narrative confirms your breadth and depth of experience for work similar or larger than this Project.

Cost Competitiveness Determination (10 Points)

Determining the cost competitiveness for each Offeror is the final step to determine the 'best value' score of each of the prospective Offeror. Cost competitiveness will be determined through the CM Fixed Fee (profit and overhead). The requested percentage will be provided by the Offeror in sealed envelope, separate from the Proposal. The pricing component is designed to provide competitive pricing for the CM Fixed Fee (profit and overhead), which will be used in the development of the GMPs. The CM Fixed Fee will be included as part of the contract.

The Fixed Fee shall be multiplied by the final construction amount. Currently, the Project construction amount is estimated at \$_____. The Owner reserves the right to negotiate and establish a final Fixed Fee with the selected CM. The purpose of the negotiations is to review, validate or reduce the Fixed Fee. The Owner will not allow an increase in the Fixed Fee after CM selection.

CM Fixed Fee

Each Offeror must submit a Fixed Fee, which is the fixed percentage of home office overhead and profit to be applied to the total of all direct costs, project overhead, and indirect costs. The Fixed Fee will be applied to Subcontractor work. Offerors shall state their Fixed Fee, identified as a percentage and carried out to two decimal points (e.g. 0.00%), which will be applied to all construction phases.

The Fixed Fee contains profit and home office overhead. Profit includes bonuses and incentives, but excludes all costs associated with direct construction activities, including, but not limited to, risk. Home office overhead is defined as all auditable costs that are allocated to all projects, including insurance that is maintained by the Offeror as a general cost of doing business.

The Fixed Fee must not contain field office overhead; field direct expenses; labor, including fringe; heavy (construction) equipment; subcontractor costs; small tools; bonds; materials; mobilization; and Project-related insurance as this is included in the GMP. Examples of item definitions that are not contained in the Fixed Fee are set forth below:

- 1) Field office overhead is defined as capital and consumable expenses necessary for the establishment and operation of the field office;
- 2) Field direct expenses are defined as hotels, airfare, food, rental cars/taxi, mileage, and other travel or per diem costs;
- 3) Labor, including fringe, is defined as field and office labor, plus other costs attributable to that labor, such as, vacation, holiday, sick leave, license fees, and training;
- 4) Subcontractor costs are defined as all costs attributable to the use of subcontracted work
- 5) Bonding and insurance costs. There shall be no fee added to item; and
- 6) Small tools are defined as tools associated with construction and not covered under equipment.
- 7) Miscellaneous project office costs, including but not limited to, drinking water, printing, reproduction, postage, delivery, and supplies.
- 8) All costs related to cell phones, radios, fax machines, pagers, computers and software.

Technical Proposal Scoring

Responses to each of the technical criteria will be evaluated by each reviewer and ratings will be determined using a numerical rating system as follows:

1. A relative numerical weight has been established by the Owner for each major category. The sum of the weights equals the total points allocated (90 points). All committee members will use these values.
2. The relative weighting assigned to each major category will be the maximum any criterion (subcategory) in the major category can receive.
3. Three degrees of quality (poor (0%-60%), fair (60%-80%), and good (80%-100%)) shall be considered when scoring each subcategory.

4. Each subcategory is equally weighted. Sum the subcategory evaluation scores within each major category and divide by the number of subcategories in the major category to arrive at an overall major category number. Round off to two decimal places.
5. Add up the major category ratings to arrive at the score for the Proposal.
6. Each committee member is required to document the rationale used for the scoring of the proposing Offerors.

Weighting Cost Competitiveness

The Owner has chosen to use a best value selection process that includes scoring on both the technical proposal and the price (Fixed Fee). Each Offeror’s Fixed Fee will be competitively scored against the other Offerors. The Offeror with the lowest Fixed Fee will receive a score of 10 points. The other Offerors receive a proportion of the available points by dividing the lowest proposed Offeror’s Fixed Fee by their proposed multiplier, rounded to 2 decimal places. If two or more Offerors provide the same exact multiplier (%), each bidder’s score will be computed as noted, which will result in identical scores.

Offeror	Proposed CM Fixed Fee	Ratio of Max Points	% of Maximum Points	Maximum Points	Price Score
Offeror A	6.00%	6.00/6.00	100.00	10	10.00
Offeror B	6.50%	6.00/6.50	92.31	10	9.23
Offeror C	7.00%	6.00/7.00	85.71	10	8.57

Table 1 – Example of Cost Competitiveness Score – Based on a Percentage Formula (normalized to the lowest bid)

CM Interviews

The Owner will include interviews as part of the selection process for a short list of most qualified Offerors. The interview will include a 20 minute oral presentation by the **CM** addressing their plan and approach to the project followed by a 40 minute question and answer session.

The Owner shall coordinate the interviews with each shortlisted Offeror. The order of the interviews for the contractors shall be random and will be determined prior to the interview date. The notification will include information about location; set limits on the number of

people attending (based on room size, occupancy comfort, and safety); state the amount of time for each interview; and include any other scheduling or room constraints.

The interview will not be used to fill in missing or incomplete information that was required in the written proposal. The interview will not be used as an opportunity by the Offerors to improve or supplement their proposals. The maximum number of points for the interview will be 150. After the scoring the interview, the points will be combined with the points scored from the technical proposal and cost competitiveness (250 maximum). The shortlisted Offerors will then be ranked from highest to lowest.

Example Document Only

SECTION II - SCOPE OF WORK

...This section is for the project description and any information currently available on the project. You give them everything you have on the project...

Commented [VP2]: Will attach an example

Project Goals

The CM/GC delivery method has been selected to ensure an aggressive approach in relation to significantly reducing costs and rapidly expediting schedules. Specific goals for this suite of projects are as follows:

- Use a “no frills/bare bones” approach to design plans to rapidly deliver a suite of quality projects under budget;
- Work cooperatively with Owner, the Design Consultants, and stakeholders to maintain an aggressive and cost effective schedule;
- Use innovation to provide improved quality and performance and generate significant project savings;
- Maintain a strong positive relationship with major stakeholders, cultivate a partnering attitude, promote a creative environment, and be proactive in addressing project needs;
- Provide a context-sensitive project using smarter construction methods for low maintenance and long term performance;
- Provide a safe working and traveling environment that minimizes the potential for injuries to the public and construction workers;
- Minimize inconvenience to the public by minimizing construction time and delays; and
- Deliver early work packages to ensure early construction is underway two one month after Notice to Proceed and this suite of projects is rapidly taken “off of the books”.

Team Partnering

At the start of the CM/GC contract, **all members** of the **Project Team** will attend a Project Kick-Off meeting. This will include the Design Consultants and Subconsultants, the **CM** and all Subcontractors, the Owner staff and other agencies required by the project. The meeting is expected to take place within 15 working days after the **CM's** Notice to Proceed. **The meeting is planned for two days.** The first day will focus on forming a highly effective team for delivery of this project and the second day will be a project specific discussion.

The partnering discussion is intended to create a common understanding of the following:

- Project goals;
- Project delivery concerns (focusing on partnership);
- Team contributions to make the project successful;
- Communication needs;
- Roles and Responsibilities;
- Issue Management;
- Conflict Resolution;

The project specific discussion will include the following:

- Project Parameters and Setting Priorities;
- Budget and Conceptual Cost Model (presented by the **CM**);
- Scheduling Requirements;
- Brainstorming Delivery and Risk Mitigation Strategies.

CM Cost Model to Optimizing the Packages

Once under contact, the **Project Team** will lay out early work packages i.e., "mini" GMPs for the entire suite of projects recognizing that the first work package must go to construction within two months from the NTP. The goal is to get to construction quickly by delivering the "shovel ready" projects first.

The cost model as provided by the CM will be updated at each project progress meeting as well as project milestone and is required for each "mini" GMP, i.e., early work package. Prior to proceeding with any work package, i.e., GMP, the team will ensure the accumulation of all "mini" GMPs is within the overall project budget. The Cost Model is generated to properly plan how the production based i.e., "bottom-up" construction cost estimates are developed to facilitate "open-book" cost comparisons and discussions with the Project Team and specifically the Independent Cost Estimate (ICE).

The costs will be modeled for the individual projects as well as for the overall suite of projects. Each individual project within the suite has specific individual accounting requirements. Based on these accounting requirements, quantities will have to be individually tracked by project for each specific pay item. Mini GMPs may consist of several projects within which the costs will need to be individually broken out and accounted for. For example, clearing and grubbing may span 3 different projects within

one mini GMP and therefore the quantities will need to be measured and tracked for each individual project by accounting code.

Design Meetings / Project Progress Meetings

Members of the **Project Team** will schedule and attend all project progress meetings. Project progress meetings will be held weekly. The Design Consultant(s) will take meeting notes of the Project Progress Meetings and distribute them within 3 days after the meeting. The Design Consultant(s) may hold design specific meetings with the **CM** at more frequently. The meetings will present general project progress, address design options that arise during the design process, and will help to provide input and direction from Owner. Project meetings will be conducted throughout preconstruction to complement the project schedule and design needs. The **CM** and key Subcontractors will participate in each meeting, report on the state of the costs estimates, project construction schedule, conduct constructability reviews, and provide pertinent input when required.

Project Budget

Budget control is critical to the success of the e Suite of projects. The Project team will all actively participate in defining the scope of each project, the design, and means and methods in order to bring the suite of projects significantly under the Overall Project Budget. These cost savings will then be applied to additional work within the suite of projects. The **CM** shall provide current market pricing as a basis of its open-book cost model. The estimated budget for the suite of projects is \$6,887,000. This includes all expenditures related to this project (design services, construction, construction management, permitting, local fees, right of way, allowances, contingencies, mitigation, etc.).

Project Schedule

The **CM** will be responsible to develop and maintain an overall project cost and resource loaded linear schedule for the permitting, right-of-way, utilities, design, construction, and close out for the suite of projects using a "cost and resource loaded" linear schedule for both the preconstruction and construction phases of the Suite of Projects. Owner currently anticipates Notice to Proceed (NTP) for the contract by _____. Project closeout is anticipated by _____.

During the preconstruction phase, the schedule will include all detailed coordination efforts to optimize the design including all Designer activities, permitting / environmental activities, utilities, all **CM** activities, all third-party/stakeholder activities, right-of-way activities, construction, and all of the Owner activities. The obligation of the Owner and Federal Agencies to complete specific submittal reviews will also be included in the project schedule.

Environmental Resources

The Owner and the Design Consultant will complete the National Environmental Policy Act (NEPA) documentation for the project. Environmental resources or concerns present or potentially present in the project area include the protection of migratory birds; compliance with the Clean Water Act Section 404 permit and Section 402 water quality certification obtained for the projects; obtaining a National Pollutant Discharge Elimination System (NPDES) permit and developing and implementing a Stormwater Pollution Prevention Plan (SWPPP); developing hazardous material testing, removal, and disposal plans; a National Emissions Standards for Hazardous Air Pollutants (NESHAP) notification to the US Environmental Protection Agency and the _____ Department of Environment; protection of groundwater, if encountered; advanced public notice of road closure and detour information; and allowing authorized emergency vehicle use of the construction access road.

It will be the **Project Team’s** responsibility to obtain all necessary permits and licenses for the construction of the suite of projects (i.e., regulatory environmental, temporary obstructions, enclosures, opening of streets for pipes, walls, utilities, etc...)

Design Parameters and Criteria

The primary technical design criteria used in developing the roadway aspects for the projects are the AASHTO “A Policy on Geometric Design of Highways and Streets” (Green Book), Sixth Edition, 2011. Additional guidance and criteria will be derived from the Federal Lands Highway (FLH) Project Delivery and Design Manual (PDDM), March 2008. Roadway criteria used are described in the following table.

Table 3 – Design Criteria

Project	ADT	Design Speed (mph)	Minimum Width (ft)

The primary technical design criteria used in developing the structural aspects for the projects are the AASHTO “LRFD Bridge Design Specifications”, Sixth Edition, 2011 including LRFD seismic specifications.

Additional guidance and criteria were derived from the Federal Lands Highway (FLH) Project Delivery and Design Manual (PDDM), March 2008 and the Bridge Technology page on the Federal Highway Administration website (<http://www.fhwa.dot.gov/bridge/>). Concrete tension stress limitations will be in accordance with the AASHTO specified limits.

Guaranteed Maximum Price

As part of preconstruction phase services, when construction documents are sufficiently complete to establish a price and a clearly defined scope, the CM will submit a formal GMP proposal to Pueblo of Acoma. The GMP includes the direct cost of all work, indirect costs, allowances items, contingencies, CM fixed fee (i.e. profit and overhead). Any remaining allowances or unused contingencies will be used to complete other project work within the suite. It is not intended that project risk shall be included in the pricing for the GMP; rather the Pueblo of Acoma desires that any risk be discussed openly and included in the contingency negotiations. The CM guarantees to complete the scope of work for the GMP amount (i.e. the contract amount) and agrees to be solely responsible for any difference between the actual cost of work and the GMP amount.

All GMP proposal(s) will be reviewed and approved by the Project Team prior to moving forward. Upon signing of the construction amendment, the CM will take full responsibility for delivering the project within the GMP.

Compensation for construction services within a GMP will be as follows:

- For Lump Sum Items in the GMP: Paid as a lump sum
- For Allowance items in the GMP: Paid based on the actual prices agreed to in the GMP and all spending of allowances are preapproved by the owner. Quantities are based on field measurement. All unused allowances are returned to the project for additional work within the suite of projects.
- For Contingencies in the GMP: Paid based on the actual prices agreed to in the GMP and all spending of contingencies are preapproved by the owner. Quantities are based on field measurement. All unused contingencies are returned to the project for additional work within the suite of projects.
- For Unit Price items in the GMP: Paid based on the agreed upon unit prices in the GMP. Quantities are based on field measurement. All unused unit items are returned to the project for additional work within the suite of projects.

Progress payments for work will be paid according to the resource loaded linear schedule as well as verification through measurement in the field.

If the CM and the Pueblo of Acoma are unable to reach agreement on a fair and reasonable price for the construction amendment, the Pueblo reserves the right not to exercise the amendment and to solicit construction services in a new procurement, from which the CM would be excluded.

One of the main goals of the CM/GC delivery method is to arrive at cost certainty prior to starting construction of a scope of work. Pueblo of Acoma seeks to start projects within the bundle or portions of early/critical work by executing amendments to the contract with the CM detailing the scopes of work selected to commence before execution of the final GMP. The amendments will state the sum for that specific scope of work, which will include the cost of the work, the general conditions, and the fee that has been established as part of the bid or negotiation process.

The Owner will consider multiple GMP proposals that meet all the following criteria:

- The proposed for construction under a separate GMP will be performed in accordance with all applicable permits and statutes. Additionally, work constructed under a “mini” GMP must not affect/impact adjacent areas that do not have all required clearances.
- Use of “mini” GMP’s on the project must be demonstrated to save time, reduce inconvenience to the travelling public, and/or reduce construction costs.
- The sum of the “mini” GMPs are within the suite of projects budget.

Local Workforce

The Owner highly encourages employment of a local workforce and local businesses to deliver a substantial portion of this suite of projects. Local is defined as having residence or an existing significant place of business located within the electoral and taxing boundaries of Cibola County.

Ownership of Documents

All innovations, ideas, plans, phasings, bids, cost models, manuscripts, specifications, data, maps, materials, etc., submitted / or obtained by the Offeror as a result of working on this RFP etc., become the property of the Owner. Proprietary cost information will not be shared with other proposers.

Required Percentage of Work for Offeror

The construction services self-performed by the Offeror’s staff, crew and equipment must be valued at not less than 50% of the total work of the overall suite of projects.

Compensation for CM/GC Preconstruction Services

The selected Offeror will be paid a maximum lump sum amount of \$ [REDACTED] for CM/GC services during Pre-Construction. This amount compensates the CM and Sub-contractors for their level of effort to be actively engaged during the preconstruction phase. Project services include but are not limited to those outlined in Appendix A. Monthly payments will be paid according to an approved schedule of values submitted by the CM.

The CM and Sub-contractors are not be entitled to recover any lost costs for the actual expenditures associated with preconstruction services and / or any lost profits for the costs for the construction phase in the event that a GMP or “mini” GMPs are not successfully agreed upon with the Owner for any reason.

ATTACHMENT A – CM PRECONSTRUCTION ACTIVITIES LIST

The successful CM (supported by their pre-selected Sub-contractors) furnishes all labor, materials, equipment, services, and support facilities, etc., required for the following project elements, which include but are not limited to:

- Weekly Design Meetings and Assistance—The Project Team partners to develop innovative and streamlined early work packages i.e., “mini GMPs” that complete the project significantly under budget and ahead of schedule. CM and subcontractors will participate in all design meetings in order to propose innovative means and methods along with associated real-time pricing and cost modeling throughout the preconstruction phase. The CM’s assistance will enable the designer to accurately produce constructible plans that effectively eliminate all changes in the field. Ultimately, the designer is responsible for certifying the final sealed construction plans with the overall project risks being distributed/shared and/or mitigated by the entire Project Team. With the direct input of the CM one major goal is to design “construction sets” of plans versus “bid sets” in order to reduce the overall design effort and save design time. The reduced design time enables the designer to draft and compare innovative alternatives proposed by the CM and project team.
- Weekly Independent Cost Estimate (ICE) meetings—As part of preconstruction phase services, the **Project Team** and the Independent Cost Estimator are required to hold regularly scheduled weekly meetings to plan relevant aspects of the cost estimate organization and break-down for a specific scope of work, the CM’s current cost model as well as discuss current innovative design options, “mini” GMPs, etc. This includes a cost estimate narrative, a detailed assessment of the project’s limitations of operations, reconciliation of the quantities, crew sizes, production rates, labor rates, and material costs, the planned ‘method of measurement’ and ‘basis of payment’ and a description of the CM’s planned ‘means and methods’ for constructing the project scope.
- Design reviews—Certify to the Owner that the plans and quantities are constructible as designed, in order to guarantee that the work can be completed within the proposed GMP and schedule. Identify and recommend solutions relating to eliminate all errors, omissions, ambiguities, etc., providing an “economy of scale” relating to the proposed design and traffic control phasings.
- Constructability reviews—Conduct intensive constructability reviews of the plans and specifications to eliminate all potential change orders and/or claims. This process includes but is not limited to certifying the following: all final quantities, required resources, construction phasing, means and methods, traffic control, specifications, equipment, labor, feasible technologies, permits, right-of-way, easements, etc., to enable the project to be constructed as planned with an exceptional level of quality and within the GMP and accelerated schedule.
- Market surveys for design decisions—Furnish designers with innovative alternative means and methods, materials and/or equipment along with current real-time actual prices and availability of resources in order to jointly make informed design decisions (early in the

- process) to eliminate future changes in the proposed designs and reduce project costs.
- Perform and certify all project quantities—CM certifies all project quantities required to successfully construct the project within the GMP.
 - Design Options—CM prices and evaluates all proposed design options, early work packages, final packages, and details for constructability and feasibility.
 - Risk—CM identifies all potential project risks (including financial risk) and methods to mitigate/share/eliminate them.
 - Maintenance of Traffic/Traffic Control Plans— Works with the Owner and Designer to develop all maintenance of traffic/traffic control plans necessary to successfully construct the project for all proposed phases and early and final work packages.
 - Staging needs— Proposes, reviews, and validates staging areas for the project.
 - Environmental Commitments/Permits—Actively works with the Owner and Designer to streamline the permitting process and recommends construction means and methods to expedite and comply with all permit approvals.
 - Cost Model—CM provides an accurate and up to date detailed overall Cost Model for the entire project, i.e., design, permitting, construction, inspection, right-of-way, mitigation, proposed and current GMPs, early work packages “mini” GMPS, expenses to date, preconstruction services, construction services, etc... Prior to submitting a GMP for the first work package, the CM submits an overall cost model for the project. The Cost Model is defined as an open book cost estimate for the project from the CM’s native estimating software platform that includes such things as labor and equipment rates, production rates, trucking costs, fuel costs, man-hours assumptions (hours planned per shift, hours planned per day, days per week), material costs, and subcontractor costs, overhead assumptions, proposed profit, and contingency. The cost model is supplemented by a linear resource loaded schedule.

The cost model approach to the construction includes the following salient feature:

- A description of the open cost model estimating process used. This description should communicate the cost of each bid item and the cost of any risk.
 - The CM will use the model as a tool to communicate the assumptions, risk, opportunities, innovation, market conditions, limited or significant market competition, subcontracting opportunities, means and methods, and potential challenges in the current design or feature that could impact schedule and cost.
 - All pricing submitted will include innovative cost savings, opportunities, value to the project, and minimized risk.
- Real Time Actual Costs—CM and its subcontractors provides real-time actual costs relating to innovative concepts, multiple work packages, and design details ensuring the project is constructible under budget. CM provides actual pricing while also focusing on the aspect that “time equals money” relating to design and construction projects. It is a requirement that the CM and subcontractors formulate the rough and final GMPs based on real bids, not estimates by the designers and/or CM firms. Getting real costs at the earliest possible rough concept phases of scoping and rough plans is essential to coming in under budget and

generating constructible projects within schedule.

- Value analysis—CM identifies aspects of the design or specifications that do not add value or whose value may be enhanced. These changes do not necessarily reduce the cost; they may actually increase constructability, speed production, reduce design requirements, and decrease the life-cycle costs, etc.
- Material cost forecasting—CM uses its Sub-contractors, material suppliers, and contacts within the industry to develop costs while considering construction material price escalation to assist making decisions regarding material selection, advanced ordering, and early work packages.
- Cash flow /cost control—CM prepares and tracks an earned value analysis to provide the Owner with information for project funding and payments. This includes projected construction costs with the CM's projected billing to aid the Owner in determining projected cash flow requirements.
- Master Project Schedule—CM prepares, manages, and tracks a linear resource and cost loaded overall Master Project Schedule throughout the preconstruction and construction phase to ensure that all commitments and dates will be met, and notifies the Owner when issues arise. The master schedule includes such items as preconstruction schedules, design schedules, permitting schedules, right-of-way schedules, detailed construction schedules, GMP schedules, project milestones, third party agreement schedules, submittal schedules, utility relocation schedules, inspection and testing schedules, and phased acceptance schedules. CM evaluates if the planned and current work progress is in line with the constraints of the master schedule. The CM provides resource and cost loading, and sequencing of all project tasks needed to complete preconstruction and construction. Also shows the time line for all "mini" GMPs and the final overall GMP.
- Right-of-way acquisition and easements—The CM assists the Designer in identifying options for right-of-way acquisitions and easements by providing innovations, means and methods input, etc... The primary purpose is to minimize the amount of right-of-way actions that must be undertaken in an effort to expedite the schedule and reduce the overall project costs.
- Meetings—CM and subcontractors will actively coordinate, participate, and document all project meetings held with the Owner, Designer, ICE, permit agencies, internal and external stakeholders, etc...
- Third party Issues—CM reviews, manages, and tracks all agreements and permits while developing innovative solutions for third party issues (i.e. irrigation and flood control districts, railroad, utilities, property owners, adjacent municipalities, citizen groups, etc.). Advises of impacts to the project and proposes innovative solutions to meet these commitments.
- Invoicing—CM provides detailed "open book" monthly invoices for progress of preconstruction and construction. The invoices must be in accordance with the Owner approved cost and resource loaded schedule progress.
- Contracting—CM will contract with all sub-contractors, materials and equipment suppliers, surveying firms, QC testing and inspection firms, geotechnical firms, and equipment

suppliers, etc., necessary for the successful completion of the project.

- **Construction**—CM provides continuous on-site construction management services throughout the construction phase. This management includes, but is not limited to: managing and documenting preconstruction meetings, weekly progress meetings; attendance and participation in all Project Team meetings, permit tracking and compliance, third party agreements, submitting overseeing and conducting QC testing and inspection programs; overseeing and conducting preconstruction, construction surveying, and as-built surveying; monitoring construction management staff and subcontractor work performance; maintaining record copies of all contract documents, creating and maintaining as-builts, administering post construction closeout, final completion, tracking all GMPs, contingencies and allowances, etc., and all other necessary management and documentation for the successful completion of the project.
- **Public Information Assistance** – CM will provide public information assistance relating to the traveling public, adjacent property owners, etc., during both the preconstruction and construction phases and attend and actively participate in all public information meetings held
- **Innovations, schedule acceleration, and cost savings** - The CM will propose and price significant innovations, schedule acceleration, and cost savings throughout the preconstruction and construction phases.
- **Development and Tracking:** CM's Contingency, Owner's Contingency, and Allowance Items – Working with the Project Team, the CM is responsible for assisting in establishing all contingencies and allowances. The two types of contingencies to be used are as follows:

CM Contingency - The CM Contingency is an allowance that will be tailored to the scope of work for each GMP that may not have been finalized/defined/specified, as part of the finalization of the drawings and specifications. The CM Contingency is approved and used by the CM at the sole discretion of the Owner. The amount of GMP Contingency will be approved by the Owner prior to the execution of the GMP and is based upon risk modeling. When establishing the CM Contingencies, the CM will request and provide the Owner adequate reasoning as to why they are to be spent. The use of any portion of the CM Contingency must be authorized by the Owner. If the CM Contingency is not fully used, the unspent amounts will be used for additional work for the suite of projects.

Owner Contingency –The Owner's Contingency will be an amount, determined by the Owner, and inclusive in the overall project budget, to properly account for potential scope changes, made at the discretion of the Owner, that were not anticipated by the Owner and are beyond the control of the Owner and the CM at the start of the project.

Allowances are specified amounts included in the GMP for certain items of work that are known but final quantities may be impacted by final site conditions. For example, based on borings the **Project Team** recognizes there are sections of the base course that will need to

be replaced and estimates have been made based on the best available geotechnical data. However, the reality is that until the asphalt is removed from the roadway an exact quantity cannot be confirmed. Therefore, an estimate/price is included in the GMP along with an allowance priced for that item of work. If additional material is needed, the allowance will cover the cost of additional material. The CM's costs for labor, overhead, profit and other expenses with respect to the allowance item are included in the GMP but not in the allowance amount. If the quantity underruns the estimate made in the GMP, the balance is used towards new work within the scope of the project.

Example Document Only

ATTACHMENT B - BASIC TENETS OF CONSTRUCTION MANAGER/GENERAL CONTRACTOR

A. Introduction

The purpose of these basic tenants is to communicate key aspects of CM/GC to the proposing CMs. This document details the Owner's intent behind the delivery method.

B. CM/GC Contrast to CM@Risk

CM@Risk (Construction Manager at Risk - CMAR) has a long history in both public and private sectors, particularly for vertical construction, federal sector projects, and related construction projects. While there are potential differences in how CM@Risk implemented in vertical construction, some of the same fundamental characteristics apply to highway or multi-modal transportation projects. CM/GC a system modeled after CM@Risk (CMR) allows for, or in most cases compels the CM to self-perform a portion of the work whereas CM@R typically does not.

C. Preconstruction Phase

Under CM/GC delivery, it is possible for projects to be designed "around a table" during regular project meetings (with the entire team present). The emphasis of the design process changes in this scenario from traditional bid sets of plans to construction sets. The intensity of the design effort shifts from traditional plans production to team project planning – that is, critical design decisions are made during regular meetings with all decision-makers present. CM/GC projects do not need a fully developed design package, as with D-B-B projects, or a complex performance specification as with D-B projects.

Preconstruction services consist of addressing and managing agency desires that may vary from: the scheduling, estimating, bidding and procuring labor and materials, to supporting early public outreach, coordinating environmental permits, to generating alternative design and construction means and methods, or developing relocation plans for businesses and landowners. Preconstruction includes vital "over-the-shoulder" reviews; which are informal reviews of the design conducted by the CM, literally looking "over the shoulder" of the designer while the designer is in the process of designing the project. The concept is extended to include non-literal settings where the CM is very closely involved in the design, to the point that the CM can raise questions and suggest daily and weekly design changes as the design progresses versus only at more traditional review times such as 30, 60, and 90 percent reviews. Typically the preconstruction phase continues until the last work package is approved and released for construction.

D. Preconstruction Fee

The Preconstruction Fee pays the CM and its subcontractors to participate in the activities conducted during the preconstruction phase. These typically include but are not limited to: real-time cost estimates, preparing/updating the schedule for the preconstruction and construction phases;

preparation and analysis of cost modeling and GMP estimates, performing value engineering analysis, risk assessment, performing constructability reviews, developing the construction logistics plan, generating market surveys of construction materials and equipment early purchase of long-lead items, coordination with the ICE, and other services as needed. (see Attachment A for a more detailed list).

E. Preconstruction Phase Collaboration, Coordination, & Communication

The Owner, CM, and the Design Consultant have the common goals of producing a quality project under budget and with an accelerated schedule, maximizing the value of the work to the Owner, achieving completion without undue inconvenience to the public, producing the work at a savings to the Owner, and with a reasonable compensation to the CM and the Design Consultant. In promoting these goals, it is expected that the CM will cooperate and collaborate with the Design Consultant in reviewing design documents, preparing cost estimates, addressing challenges, sequencing suggestions, constructability reviews, and other items required by the CM's contract. The CM works with the Owner, and other Agencies as necessary when considering alternatives. The CM actively provides input for alternatives, improved methods, and other ways to maximize the quality of the project. The CM maintains constant communication with the Design Consultant and the Owner.

The CM's preconstruction services are not intended to include professional liability for the design. The Owner's Design Consultant(s) remains responsible for the Engineering of all aspects related to finalization of the design documents and remains the Designer-of-Record throughout the construction phase. During the construction phase, the CM's responsibilities for design are those typical for a General Contractor (DBB) services (such as formwork design, temporary support-of-excavation design, etc.). However, the CMs input into the design during preconstruction, ultimately reduces the overall design liability for the designer, as designs are thoroughly vetted for constructability / errors and omissions.

F. Cost Calibration

During the development of the GMP, the **Project Team** considers what costs may be out of range, if the project overdesigned, whether the specifications are more stringent than needed, is the CM carrying too many risks, is the owner asking for more than they can afford, and are contingencies and allowances needed. With this process, each pay item is treated like an individual GMP and the entire team agrees to a reasonable cost to pay for each item, prior to moving forward with the design detail. This enables real-time adjustments to each pay item, as well as each design detail, prior to proceeding to an overall GMP very early in the design process. Costs should thereby remain in control because they are controlled and adjusted during each regular production meeting.

G. Overall Cost Model

A cost model represents a good faith open book estimate from the CM of the project costs required to complete all work packages required for the project. It is used to verify that the overall project scope can be completed under the available project budget. This model enables the **Project Team** to properly

plan effectively, monitor and control the cash flow, costs and funds available in comparison to the budget, estimates and total commitments for the project. This cost is not contractual but a guide for the team in gauging the project in relation to allowable budget

H. Linear (Resource Loaded) Schedules

A Linear Schedule Method (LSM) is used mainly in the construction industry to schedule resources in repetitive activities commonly found in highway, pipeline, high-rise building and rail construction projects. These projects are called repetitive or linear projects. The main advantages of LSM over Critical Path Method (CPM) are its underlying idea of keeping resources continuously at work. In other words, it schedules activities in such a way that:

1. resource utilization is maximized;
2. interruption in on-going process is minimized, including hiring-and-firing;
3. the effect of the learning curve phenomenon is minimized

I. Guaranteed Maximum Price (GMP)

A GMP is the CM's guaranteed price to deliver a collaboratively developed and mutually agreed upon scope of work for an entire project. The CM guarantees that in no event shall the sum of the CM fixed fee, direct cost of the work, and the Owner's and CM's allowances and contingencies exceed the GMP. It includes, but is not limited to all direct and indirect contractor costs associated with the construction, contracting, self-performance and management of the project, including the preparation of the construction schedules, shop drawing preparation, construction labor, material costs, equipment costs, all traffic control, quality testing, survey, replacement of rejected work or materials, all punch-list work, certain public information and coordination costs, all overhead costs, general condition costs, and fees.

Each GMP includes the CM Fixed Fee, a pricing element that was bid competitively as part of the CM selection, which is a fixed rate percentage for home office overhead and profit that will be applied to the total of all direct costs, project overhead, and indirect costs. .

A project's overall GMP is typically comprised of a series of smaller GMPs, i.e., "mini" GMPs. When the design for an individual work package achieves 60-90% completion, the CM provides a GMP for construction of that scope. Throughout preconstruction, the CM furnishes real-time cost proposals received from directly from the CM and Sub-contractors as the design progresses. A transparent, open books form, of cost accounting is used and the CM's profit, general conditions, and indirect costs are known along with any contingencies that the team agrees to be appropriate. The Owner is given an opportunity to question the CM's proposals as well as direct the ICE and **Project Team** to revise its approach to meet budget constraints.

Contingency / Allowances

Contingencies and allowances are required to successfully cover the design and construction aspect of the project and to accelerate the entire process. They are the difference between success and failure on a CM project as they enable real-time decisions to be made and paid for and the project to move forward rapidly. They are part of the cost estimate that covers all the uncertain costs of the project.

“Mini” GMPs / Early Work Packages

Successful implementation often requires that a project be broken into multiple “mini” phases or work packages, enabling the CM to start work early. Early work packages can be broken into such items as retention ponds, partial clearing and grubbing, constructing on friendly parcel takes, utility relocation, advance order long lead items, etc. Early work packages ensure projects are brought in significantly ahead of schedule.

At some agreed point, the final GMP becomes the sum of the individual GMPs resulting in the final construction amount

J. Independent Cost Estimate (ICE)

An ICE is a cost estimate developed by a separate Contractor to compare with the CMs cost estimate to ensure that the construction costs are reasonable and fair. Only a firm that includes experienced transportation construction estimators should be considered for work as an ICE. A properly-executed ICE should never use historical figures (data). The independent cost estimator should be contacting the same people that the CM is contacting. This introduces another potential problem, however. The subcontractors and suppliers, if not contacted by the CM and/or owner and “encouraged” to support the ICE, will almost assuredly not do so—rendering erroneous prices or none at all. Subcontractors and suppliers should be told in advance that they will be contacted by the ICE, and should be strongly encouraged to work with them. Preferably, the ICE should engage the CM’s estimators throughout this process. By allowing the parties to talk through their disagreements, the process becomes much more efficient. Conceivably, this does not present any potential conflict through these discussions. Since any differences have to be reconciled eventually, it is a good idea to let the individuals that produce these estimates sort things out directly, and as early as possible.

Throughout the ICE process, the entire **Project Team** should be aware of the targeted, versus the actual, on-going costs of the project, as it is being designed and innovations are implemented to assure that the overall project costs are kept under budget. ICEs should be performed using CM’s/entities with direct local construction bidding experience. In addition, the entire **Project Team** (including the ICE) discusses the actual bid estimates/prices, received directly from the subs, during the regular project meetings and determines if and why costs may be out of range, i.e., is the project overdesigned? Are the specifications more stringent than needed? Is the CM carrying too many risks? Is the owner asking for more than they can afford? Are contingencies and allowances needed, etc? With this process, each pay item is treated as an individual GMP and the entire team agrees to a reasonable cost to pay for

each item, prior to moving forward with the design detail. This enables real-time adjustments to each pay item, as well as each design detail, prior to proceeding to an overall GMP very early in the design process. Costs should thereby remain in control because they are controlled and adjusted during each regular weekly production meeting.

K. Construction Phase

The CM enters into a single contract including an amendment for construction with Owner each initiated with individual Notices-To Proceed (NTPs). The first NTP will be issued to engage preconstruction services and ultimately the development of GMP. Offerors are required to name their proposed Subcontractors in their proposal. Subsequent NTPs will be issued after the parties agree to amendments that provides a GMP for the selected scope of work. Each subsequent contract amendment will have its own NTP. The terms and conditions for construction services will be based on the Owner's Standard Construction Contract with amendments that are tailored to specific project requirements.

Once construction begins, the CM becomes the general contractor (GC) while retaining his duties as construction manager (CM). It is essential that the CM retains continuity of his original team as to not lose the benefits and risk retirement achieved during the preconstruction phase. This phase begins when the team releases its first work package for construction. Typically construction consists of multiple work packages. The CM retains management assistance of the project as well as acting as prime Contractor (GC) delivering the labor, equipment and materials to complete each work package successfully. The initial **Project Team** and structure remain intact throughout both phases. Construction services consist of purchasing, on-site and off-site construction and fabrication of components, contract administration, and general implementation of the contract requirements through project closeout. The CM runs frequent progress meetings and produces progress schedules, shop drawings, payment applications, record documents, and as-builts.