

RESOLUTION 19-59-P

RE: BOLLINGER CANYON ROAD – IRON HORSE TRAIL (IHT) BICYCLE AND PEDESTRIAN OVERCROSSING (PROJECT 120025) – ADOPT CONSTRUCTION MANAGER/GENERAL CONTRACTOR (CM/GC) DELIVERY METHOD

WHEREAS, the Contra Costa Transportation Authority (AUTHORITY) entered into Cooperative Agreement No. 12SW.05 with the City of San Ramon for the Authority to manage the design and construction of the Bollinger Canyon Road – IHT Bicycle and Pedestrian Overcrossing project; and

WHEREAS, the federal surface transportation act “Moving Ahead for Progress in the 21st Century” (MAP-21) signed into law on July 6, 2012 authorized the use of the CM/GC delivery method for delivering Federal-aid projects; and

WHEREAS, Assembly Bill 1475 (AB 1475) passed by the Legislature and signed into law by the Governor on September 12, 2019 amended Sections 6702 and 6971 of the Public Contract Code authorizing the use of the CM/GC delivery method for the project; and

WHEREAS, the Authority has determined that the CM/GC delivery method is the most advanced approach for delivery of the project.

NOW, THEREFORE, BE IT RESOLVED, that the Authority hereby:

- (1) Adopts the CM/GC delivery method for the Bollinger Canyon Road – IHT Bicycle and Pedestrian Overcrossing project.

This resolution was entered into at a meeting of the Contra Costa Transportation Authority Board held on November 20, 2019 in Walnut Creek, California by the following vote:

AYES: Chair Taylor, Vice Chair Pierce, and Commissioners Abelson, Arnerich, Butt, Gerringer, Glover, Haskew, Hudson, Mitchoff, and Romick
NOES: None
ABSENT: None
ABSTAIN: None



Robert Taylor, Chair

Attest:



Tarienne Grover, Clerk of the Board

Administration and Projects Committee **STAFF REPORT**

Meeting Date: November 7, 2019

Subject	Bollinger Canyon Road – Iron Horse Trail (IHT) Bicycle and Pedestrian Overcrossing (Project 120025) – Adopt Construction Manager/General Contractor (CM/GC) Delivery Method
Summary of Issues	<p>On August 8, 2019, the City of San Ramon and the Contra Costa Transportation Authority (Authority) entered into Cooperative Agreement No. 12SW.05 for the Authority to manage the design and construction of the Bollinger Canyon Road – IHT Bicycle and Pedestrian Overcrossing project. Due to the bridge type selected (Center Pylon Cable Stayed), it has been determined that the CM/GC delivery method is the preferred method.</p> <p>Resolution 19-59-P will formally adopt the CM/GC delivery method for the project.</p>
Recommendations	Staff seeks approval of Resolution 19-59-P, which will authorize the adoption of the CM/GC delivery method for the Bollinger Canyon Road – IHT Bicycle and Pedestrian Overcrossing project.
Financial Implications	None
Options	The Authority Board may choose to not adopt the CM/GC delivery method. However, this may likely impact the schedule and cost of the project.
Attachments (See APC Packet dated 11/7/19 for Attachment A; Attachment B has been replaced)	<p>A. Resolution 19-59-P</p> <p>B. Memorandum on CM/GC Delivery Approach – <i>Replaced</i></p>
Changes from Committee	<i>At the November 7, 2019 APC Meeting, the APC moved to approve Resolution 19-59-P and requested that staff provide regular updates on project status.</i>

Background

On April 23, 2019, the City of San Ramon adopted Resolution 2019-040 accepting a Center Pylon Cable Stayed Bridge for the Bollinger Canyon Road – IHT Bicycle and Pedestrian Overcrossing project. Through the same resolution, the San Ramon City Council authorized the City Manager to enter into a Cooperative Agreement No. 12SW.05 with the Authority to manage the design and construction of the overcrossing and to adopt an alternative delivery approach including the CM/GC delivery method.

This project will be the first of three bridge projects identified by the City of San Ramon to improve bicycle and pedestrian access and safety along the IHT. The City of San Ramon and Authority staff have worked together to streamline the design concept to reduce project cost while still meeting the City's goal of constructing a high quality architecturally unique project that will serve as a gateway feature for the City of San Ramon. The currently proposed project includes a 200' long cable stayed bridge with a single support in the median of Bollinger Canyon Road. Approaches to the cable stayed bridge will include a combination of a concrete bridge with edge girders and mechanically stabilized earth abutments.

In the Bay Area, cable stayed bicycle and pedestrian overcrossings have been delivered utilizing the traditional design-bid-build delivery method. A number of recent projects experienced cost overrun issues because of their complex staging and construction. City of San Ramon staff and Authority staff held extensive discussions on the delivery methodology as a proactive way to improve the project design, constructability, cost certainty and risk management. The delivery team also followed an industry contracting methods selection workshop process that concluded that the CM/GC delivery method is the most advanced approach for the project.

Under this approach, the contractor will be hired during the project design phase and will provide pre-construction services. This includes providing significant input on construction methods, materials, and risk management strategies during the design phase. The contractor will also provide cost estimate updates at key design milestones to provide assurance that the project design is aligned with the project funding. The contractor will not perform the actual design, which will be performed by an engineering consultant as part of a separate contract.

At the conclusion of the design process, the contractor will be asked to submit a price proposal to construct the project. If the price is reasonable and an agreement is reached with the Authority, then the contractor will be awarded a contract to construct the project. If the Authority and the contractor fail to reach agreement on the price, then the Authority can

publicly invite bids. Under this scenario, the contractor would not be permitted to participate in the bid process in any capacity.

With the recent passage of Assembly Bill 1475 (AB 1475), the Authority is authorized to utilize the CM/GC delivery method for this project. The Authority will follow Federal Highway Administration (FHWA) and California Department of Transportation (Caltrans) requirements and processes for the CM/GC procurement to ensure that the selection will provide a fair result and pricing process will result in an equitable bid price. FHWA and Caltrans will review and provide approvals for key steps in the CM/GC delivery method process to satisfy federal funding requirements and safeguards.

The process also provides for the Authority to hire an Independent Cost Estimator (Estimator) to assist the Authority in reviewing and reconciling project cost estimates. The Estimator will also review the CM/GC Construction Price Proposal and participate in price negotiation, if necessary. There will be specific provisions in the contract for the Estimator to avoid any potential conflict of interest with the CM/GC team.

As one of the starting points in the FHWA and Caltrans approval process, the governing body of the implementation agency, the Authority in this instance, is required to take an action to adopt the CM/GC delivery method for the project.



SAN RAMON IRON HORSE TRAIL OVERCROSSING PROJECT

Draft

Memorandum on Construction Manager/General Contractor Delivery Approach
For the Iron Horse Trail Pedestrian Overcrossing

By



In Partnership with



November 20, 2019

DRAFT

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DRAFT

I. SUMMARY

This memorandum provides the background and history of the City of San Ramon (City) Iron Horse Trail (IHT) Bicycle and Pedestrian Overcrossing Project at Bollinger Canyon Road. This includes the cooperative agreement (Attachment A) between the City and the Contra Costa County Transportation Authority (Authority) for project implementation and the recent passage of Assembly Bill 1475 (AB1475) which amends Public Contract Code (PCC) 6702 to allow the use of Construction Manager and General Contractor (CM/GC) project delivery method. This method can only be implemented by a Regional Transportation Agency (RTA), as defined under AB1475, on any transportation project in California that is not on the state highway system.

In addition, this memo discusses the reasoning and documents the decision for the adoption of the CM/GC delivery method approach. The Work Plan developed is consistent with the *Caltrans Local Assistance Procedures for Construction Manager and General Contractor* published by Caltrans and approved by Federal Highway Administration (FHWA) in February 2019.

Under this Work Plan, the CM/GC selection process may begin during the National Environmental Policy Act (NEPA) phase. The project Design Consultant (Engineer of Record), Independent Cost Estimator (ICE), Construction Management (CM) Consultant, and the CM/GC contractor will be selected separately.

The CM/GC contractor will perform pre-construction services, which includes cost estimation, risk assessment, management plan development, and field utility verification during the design phase. The Work Plan will discuss key tasks and the roles of the CM/GC contractor.

The CM/GC contractor will also provide Opinions of Probable Construction Cost (OPCCs) at key design milestones, which will be compared and reconciled, if possible, with the independently prepared estimates from the Design Consultant and the ICE. Upon completion and approval of the 90% plans, the CM/GC contractor will be asked to submit a cost proposal.

The CM/GC contractor shall meet the project Disadvantaged Business Enterprise (DBE) participation goal and obtain competitive bids from subcontractors, suppliers and vendors in the preparation of its final cost proposal for construction services. The Authority and the City will review the final price proposal against previous OPCCs and independent estimates prepared by the Design Consultant and the ICE, and negotiate a final cost proposal if possible. If the negotiation is successful and after Caltrans and FHWA review and approval, the construction work package will be awarded.

II. INTRODUCTION & BACKGROUND

A. History

The IHT bicycle and pedestrian crossing over Bollinger Canyon Road is part of the City's Capital Improvement Program that will improve access and safety for bicyclists and pedestrians along the Iron Horse Regional Trail, and create a more pedestrian-friendly environment at the Bollinger Canyon Road crossing within the City of San Ramon.

The proposed project will develop a new overcrossing along the existing alignment of the IHT where it intersects with Bollinger Canyon Road. The City of San Ramon is the Project Sponsor and the Lead Agency for California Environmental Quality Act (CEQA). The CEQA environmental document analyzed the environmental impacts associated with the development of overcrossings at both Bollinger Canyon Road and Crow Canyon Road.

The project area is under the jurisdiction of multiple local and regional agencies, including the City of San Ramon, Contra Costa County, and the East Bay Regional Park District. The City adopted the CEQA Initial Study/Mitigated Negative Declaration in November 2017. A CEQA Addendum was prepared in August 2019. The City and its environmental consultant are currently supporting the Caltrans NEPA environmental process. The City also requested that the Authority assume the role of the implementing agency for the project because of the Authority's successful track record of delivering complex projects.

B. Project Description

The proposed Bollinger Canyon overcrossing is located in the City of San Ramon approximately 0.6 miles east of I-680. The overcrossing will link key areas in San Ramon, including the newly opened City Center and the existing Bishop Ranch Business Park. Also, the bridge will provide a link via the Iron Horse Trail between the City's Central Park, City Hall, Library, Transit Center and connectivity to the Iron Horse Middle School. At this location, the bridge will be aligned between the existing light rail transit corridor to the east and a storm drain easement to the west. The trail on the northern end of the bridge will require minor realignment to connect to the bridge ramp. Individual components of the Bollinger Canyon overcrossing are detailed below.

The Bollinger Canyon Road overcrossing will likely consist of a cable-stayed bridge with a central support located in the median of Bollinger Canyon Road, or a design of similar appearance. From the northern to southern landings, the total length of the new overcrossing will be approximately 950 feet. The width of the bridge will range between 16 and 20 feet. When completed, the overcrossing will become part of the Iron Horse Trail.

C. Cooperative Agreement – City of San Ramon & CCTA

In July 2019, the City and the Authority entered into a cooperative agreement for the Authority to assume the role of the Implementing Agency. The City will remain as the Project Sponsor and is responsible for securing project funding.

D. Project Funding

The Project will utilize the funding sources as shown below:

- Federal Funds - Congestion Mitigation and Air Quality / One Bay Area Grant Round 2 (CMAQ/OBAG2) = \$4,840,000
- Measure J (multiple programs) = TBD
- Local Funds = TBD

The CMAQ/OBAG2 funds will be used solely for the construction phase.

E. Eligibility for CM/GC

The Federal Surface Transportation Act MAP-21 authorizes the use of the CM/GC contracting for the delivery of Federal-aid projects. The California Legislature passed various pieces of legislation to authorize certain RTAs to utilize the CM/CG method of procurement to design and construct certain projects.

Assembly Bill 1475 amends Section 6971 of the PCC to authorize the use of the CM/GC procurement for any transportation project delivered by any RTA in California that is not on the state highway system. This amendment authorizes the Authority to utilize CM/GC procurement for this project. The legislation was signed into law by Governor Newsom on September 12, 2019, and becomes effective on January 1, 2020.

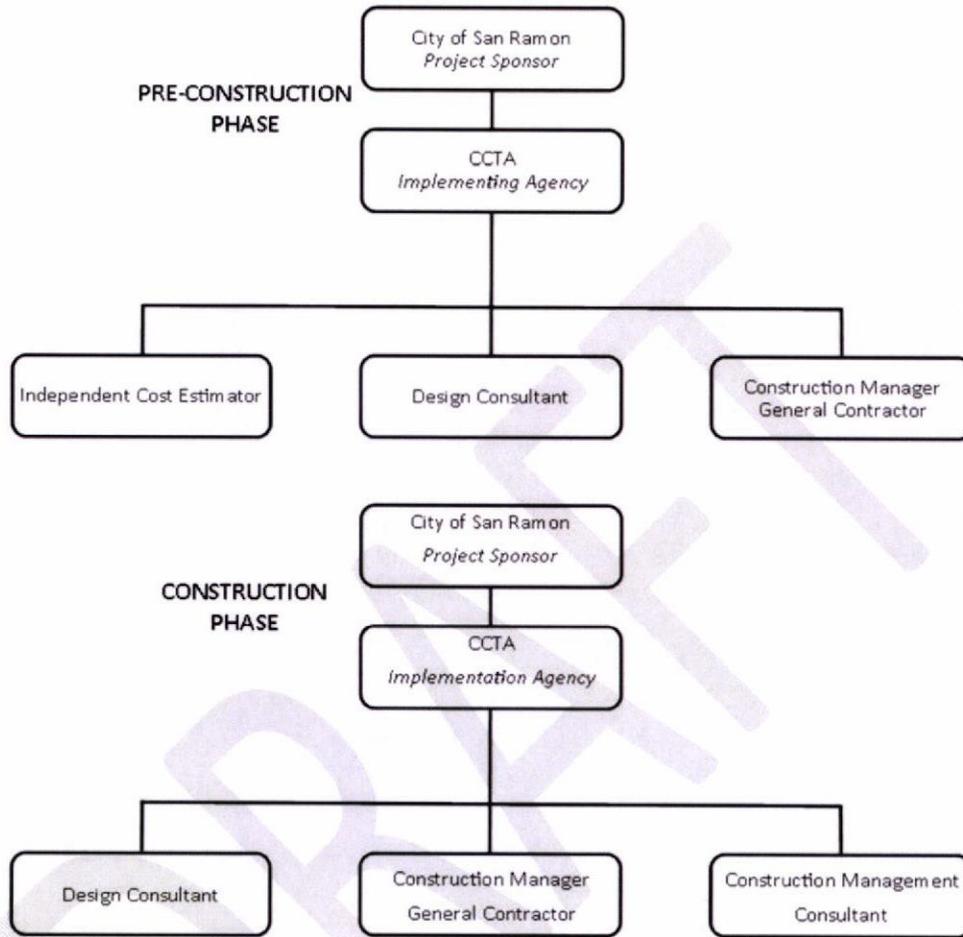
At its meeting on April 23, 2019, the San Ramon City Council approved the use of -alternatives to the design-bid-build project delivery method. On September 25, 2019, the project team held a workshop to develop the Project Delivery Selection Matrix evaluation process. The evaluation concluded that CM/GC procurement is the most advantageous methodology for the delivery of this Project. The evaluation is summarized in the Project Delivery Selection Workshop Summary Report (Attachment B).

On November 20, 2019, the Authority Board approved the use of the CM/GC delivery method for this Project.

F. Project Organization

The City of San Ramon is the Project Sponsor and the Authority is the Implementing Agency. Under the Cooperative Agreement, the two agencies will collectively request a TIP Amendment to formalize the Authority's role in the Project. The project organization is shown in Figure 1.

FIGURE 1: PROJECT ORGANIZATION CHART



G. Determination of Construction Procurement Methodology

The project includes the construction of a cable-stayed bridge over a busy arterial roadway with the main alignment running parallel to major utilities. Multiple (similar) cable-stayed bridges in the San Francisco Bay Area delivered using the typical Design-Bid-Build procurement have encountered major cost issues and overruns. The project team evaluated non-traditional construction procurement options and determined that CM/GC is the best project delivery method.

The City, Authority staff and project team conducted a thorough review of various construction procurement approaches including Design-Bid-Build, CM/GC, and Design-Build. Key factors considered include:

- Opportunity for Innovation - Cable-stayed bridges are structures with specialized technical challenges, which will benefit from having a contractor as part of the project team during the design phase. The contractor will be the best resource to help the project team identify

opportunities for innovations to reduce costs, simplify staging and minimize risks to ensure the project's successful delivery.

- **Aesthetics and Gateway Status** - The IHT overcrossing is considered a major gateway feature in the City and is located adjacent to the City Hall and the recently completed City Center Bishop Ranch, a major shopping area in the City. Therefore, the design aesthetics and details are of great importance to the City and the community. After a thorough review, the project team concluded that the Design-Build procurement method would not provide the desired level of control over aesthetics and design details. With CM/GC as the delivery method, CCTA and the City have the same level of design control as a typical design-bid-build project.
- **Staging, Phasing and Traffic Management** - The IHT cable-stayed bridge includes a tower support structure that will be placed in the median of Bollinger Canyon Road causing impacts to the travelling public. Additionally, special deck construction and erection procedures need to be performed over the heavily-travelled roadway. A contractor can provide useful guidance to the designer in developing safe and efficient phasing, construction, and erection for the project, while minimizing impacts to the public.
- **Cost Management and Constraints** - Recent projects suggest that the use of typical unit rates do not provide reliable Engineer's Estimate (EE) for a cable-stayed overcrossing. As the project is budget-constrained, a reliable estimate of probable construction cost is critical. With the CM/GC procurement, the project cost can be updated reliably as the design is developed. This contrasts with other procurement methods where the project owner does not have a confident and reliable estimate prior to bid opening. In addition, having the contractor "buy-in" to the construction documents reduces potential claims and contract change orders.
- **Risk Management** – The project team has identified a series of risks associated with the project that can be mitigated using the CM/GC method, including major utilities, both overhead and underground, run parallel to the overcrossing alignment and their impacts on schedule and construction.

III. ROLES & RESPONSIBILITIES

A. Design Consultant

The Design Consultant, under Authority's direction, will lead the Project Development Team (PDT) during the design phase. The PDT consists of the Authority, the City of San Ramon, the Design Consultant, the ICE, and the CM/GC contractor. The Design Consultant will coordinate and be responsible for all design activities, including but not limited to obtaining topographic information, conducting geotechnical work, preparing plans, specifications, and final construction document, preparing all necessary utility coordination and agreements and right-of-way (ROW) documents, coordinating and supporting the City's ROW acquisition activities, and obtaining the necessary approvals and permits, public outreach support, etc.

In addition, the Design Consultant prepares an EE using its typical historical bid-based estimating process. The Design Consultant will be responsible for creating a variance report which compares the EE, the estimate prepared by the ICE, and the OPCC.

During the construction phase, the Design Consultant will review project submittals, respond to Request for Information (RFI), conduct field observation, assist in the preparation of contract change orders, and prepare record drawings, etc.

B. Independent Cost Estimator

The ICE will be responsible for the preparation of independent cost estimates at key design milestones. These estimates will be developed using a standard contractors format based on labor, materials, equipment, level-of-effort, and profit, which is often referred to as a “bottom-up” approach and will be performed completely separate from the EE or OPCC. In addition, the ICE assumes the role of Authority’s cost advisor and will take an active role in reviewing and reconciling the OPCCs at various design milestones. The ICE must not be affiliated with the CM/GC contractor or the Design Consultant.

C. Construction Management Consultant

The CM Consultant will be responsible for construction contract administration, public outreach, agency coordination, quality assurance, and assuring regulatory and permit compliance. The CM Consultant is not selected until the project enters the construction phase.

D. Procurement Process

The Design Consultant, the ICE, and the CM services will be funded by Measure J or local funds, and no Federal funds will be used. The procurement will follow Authority’s standard open and competitive procurement process for contracts that do not utilize federal funds. CCTA’s Director of Finance, acting as Authority’s Chief Procurement Officer (CPO), will manage and oversee the procurement process using Quality Based Selection (QBS) criteria.

The Authority intends to complete the procurements for the Design Consultant and the ICE prior to the release of the CM/GC contractor RFQ for pre-construction services. Neither the Design Consultant or the ICE will be allowed to participate as part of any CM/GC team to avoid a potential conflict of interest. The Design Consultant and/or the ICE may be called upon to provide project information that may be included in the CM/GC team procurement document, and develop estimates against which the CM/GC contractor’s cost proposal would be compared.

IV. CM/GC CONTRACTOR PROCUREMENT PROCESS

It is expected that the construction phase will be partially funded with federal funds. Therefore, the Authority will obtain the approval of Caltrans and FHWA prior to formally releasing the Request for Qualifications (RFQ) for CM/GC services. The procurement will utilize a one-step process. The one-step RFQ process has lower proposal submission cost which helps attract bidders.

Procurement of a CM/GC contractor can be based on qualifications or on a best value-based selection process. This competitive selection process is left to the discretion of the Authority, provided that its procedures do not serve as a barrier to fair and open competition or conflict with 23 CFR Part 635, Subpart A & E. PCC 6703, which the Authority is required to follow per PCC 6973, requires Authority to establish a procedure for the evaluation and selection of a CM/GC contractor through a RFQ. A

qualifications-based selection is based simply on the qualifications of the proposer as described in the proposer's SOQ. A best value selection is based on both qualifications of the proposer as well as pricing information such as pre-construction services cost or the proposed markups on construction costs.

Similar to the determination of the procurement methodology, key City and Authority staff, Project team and other stakeholders may be invited to participate in determining the selection criteria and whether it will be based on qualifications (QBS), best value or a combination of these factors. The team will conduct a formal evaluation using a Procurement Procedure Selection Matrix to make that determination. The evaluation will be summarized in a Procurement Procedure Selection Report. The determination will be incorporated into the selection criteria section of the RFQ.

After obtaining Caltrans and FHWA's approval of the CM/GC contractor RFQ, the Authority will begin the procurement process in order for a CM/GC contractor to begin its pre-construction services before the completion of NEPA document. This enables the CM/GC contractor to review and provide input towards any environmental restrictions on working conditions and prepare a mitigation plan.

The open and competitive procurement will follow the Authority's standard procurement process for contracts that utilize federal funds and will be in compliance with the Caltrans Local Assistance Procedures Manual. Based on the anticipated scope of the services to be provided by the CM/GC contractor, Authority will determine the Disadvantage Business Enterprise (DBE) Goal based on Exhibit 9D-DBE Contract Goal Methodology of the Caltrans Local Assistance Procedures Manual.

The RFQ will be prepared under the direction of the Authority's Director of Construction. The RFQ will include, at a minimum, the following information:

- Project Introduction and Summary
- Draft Scope of Services and list of deliverables
- Instructions and Required Content for Statement of Qualifications
- Required Statements/Federal Compliance Forms/State Compliance Forms
- Evaluation Factors, Scoring and Selection Criteria including pass/fail and weighting
- Whether or not a shortlist will be determined and if so, how that list will be determined
- Determine if interviews will be required and the relative weights of the written proposals and the scores at the interviews
- Protest Process
- Sample Agreement including Insurance Requirements
- Method of Payment for Pre-construction Services
- Indicate that DBE requirements will not apply for pre-construction services but will apply to construction phase
- Indicate the minimum percentage of work during the construction services phase that the CM/GC contractor must perform (must be at least 30%, excluding specialty work)
- The Authority's adopted subcontracting procedures for which the CM/GC contractor must comply. Regarding subcontracting, the Authority must comply with PCC 6705, 23 CFR 635.504(d) and the DBE regulations in 49 CFR 26.

- The condition under which the second phase of the two-phase CM/GC contract, the construction services contract, may or may not be awarded.
- Indicate the CM/GC contractor must be excluded from bidding on the advertised contract if there is no agreement on the price of the construction services between the Authority and the CM/GC contractor.

The Authority's Director of Finance, acting as Chief Procurement Officer (CPO), will manage and oversee the bidding process. The CPO will oversee the procurement and act as the single point of contact for all proposers. During the procurement process, the CPO will handle all communications with potential proposers including accepting and responding to questions and issuing addendum(s) (if needed), clarifying ambiguities, errors, omissions, or other information that would not necessitate a change of the SOQ, coordinating distribution and evaluation of the submitted Statement of Qualifications (SOQ), announcing the shortlist for interviews, managing the interview process and documenting the procurement process.

The procurement process will include an interview. The interview will allow proposers an opportunity to present their experience, qualifications, and project approach. The selection panel may ask questions of the proposers to better understand their qualifications and approach. Each proposer's interview will be scored based on the criteria established in the RFQ.

The RFQ will be uploaded to a web-based eProcurement service available for all potential proposers. All communications with potential proposers prior to submission of the RFQ will be posted on web-based eProcurement service and made available to all registered proposers. All proposers will be required to submit their SOQ electronically before the bid submittal deadline.

The Authority, in consultation with the City, will assemble a selection committee that includes staff from both agencies. In addition, members from outside agencies might be added to the panel as subject matter experts in reviewing the SOQs and participating as voting members. Authority's CPO, project management consultant and Caltrans Local Assistance and FHWA staff may also be invited to participate in the process as non-voting members. All participants, whether acting as voting or non-voting members, will be required to certify that they will not communicate with any outside individuals or entities on matters related to the selection process except through Authority's CPO.

The CPO will distribute the SOQs received together with the SOQ evaluation/scoring form. The SOQs will be scored solely based on the criteria stated in the RFQ. The CPO will review the SOQs for compliance with the RFQ requirements and completeness and to verify proposer's references as required in the RFQ. He will establish the interview shortlist based solely on the scoring. The CPO, after consultation with the voting members of the interview panel, will determine the number of proposers (typically up to 4 firms/teams) to be interviewed.

Proposers that are invited for an interview may be required to submit additional information prior to the interview including but not limited to: innovation ideas, approach to developing and timing of construction work packages and subcontracting, construction schedule, cost and risk management

approaches and other materials that the Authority considers helpful in evaluating the proposers' qualifications as part of the interview process.

The time, length and format of the interview will be communicated to all proposers invited to the interview. The interviews will be scored independently by all the voting members based solely on the materials presented, responses to questions and the interview proceedings. The final overall scoring of each proposer will be the combined scores from both the SOQ evaluation and the interview score in accordance with the criteria stated in the RFQ. Records of the evaluation and scoring will be kept by the CPO for a minimum of three years after the CM/GC Contract work is completed.

V. CM/GC CONTRACTOR'S SCOPE OF SERVICES

Pre-construction phase services may include on-site potholing, material sampling and data collection to assist the Design Consultant in their design work, but does not include engineering and design related services as defined in 23CFR172.3. Pre-NEPA pre-construction services may include preliminary staging or preliminary falsework plans when needed for the NEPA process. However, services involving plans or submittals that are for the final design and not needed for the NEPA process (such as shop drawings and fabrication plans) is not permitted, even on an at-risk basis, prior to a NEPA environmental document approval.

Prior to the agreement and award of the main construction services work, the CM/GC contractor work scope includes pre-construction phase services and if requested by the Authority, advance construction work packages. Additional details are as given:

- Validate the project design as it is intended by the Design Consultant and comparing it to the scope of work against both the required budget and schedule. If the project cannot be readily constructed within those constraints, the CM/GC contractor will propose changes to meet the Authority's and the City's intended delivery goals.
- Determine the requirements and locations for project staging areas
- Evaluate the project site and all access routes for constraints that either require additional temporary access or alternative construction methods or provide a cost and feasibility analysis to the Design Consultant.
- Provide information and concepts as to how the CM/GC contractor would approach constructing the project including equipment placement and access so that the project footprint and impact can be adequately defined.
- Perform design review for the purposes of identifying errors, omissions, ambiguities, constructability, and opportunities for value engineering or minimizing project impacts and reducing risks.
- Participate in facilitated brain storming sessions with Design Consultant and Authority to generate ideas to solve design, utility, construction and environmental impact issues.
- Perform value analysis of alternate design options and provide anticipated changes to time, cost and environmental impacts.
- Perform feasibility study on possible solutions to specific design issues.

- Review the design against the capability of the local industry including availabilities of equipment, technology, expertise and labor for a qualified contractors and subcontractors to construct the project features to the level of quality specified in the contract.
- Provide input and recommendations that will improve the operations and maintenance of the completed project.
- Perform market queries or surveys to inform Design Consultant’s decision on alternative design materials or construction methods for specific project elements based on current pricing and availability to avoid late design changes.
- Assist the Authority with public outreach, and other third-party coordination activities.
- Assist the Design Consultant with obtaining the necessary project approvals and permits.
- Perform independent quantity takeoff and to review the Design Consultant’s Item and Quantity Schedule.
- Prepare and update the construction schedule using the Critical Path Method (CPM) at key design submittal milestones.
- Develop and maintain a Risk Register and Risk Management Plan.
- Develop and maintain a Project Cost Model.
- Prepare OPCCs at various design milestones and prepare Final Cost Proposal.
- Prepare breakout Guaranteed Maximum Price (GMP) estimates on possible early award and work packages.
- Perform pre-construction field investigative work such as field utility investigation and verification.
- Prepare a Final Price Proposal/GMP for the construction of the project at the 90% design milestone and negotiate with the Authority towards an agreed upon price and the award of a construction contract for the Project.
- Perform as-needed work in support of ROW acquisition requested by the Authority. Such work may include minor modification to third party facilities that are impacted by project ROW acquisition or vegetation control (such as vegetation management) on newly acquired ROW.
- Perform limited advanced construction work related demolition, utility relocation, and tree trimming if requested by Authority.

A summary of possible pre-construction services to be provided by the CM/GC contractor is summarized in Table 1.

TABLE 1: Summary of Possible CM/GC Contractor Pre-construction Services

DESIGN RELATED	ADMINISTRATION RELATED
Validate Design Consultant design	Coordinate with 3rd party stakeholders
Assist/input to Design Consultant design	Attend public meetings
Design reviews	Biddability reviews
Design charrettes	Subcontractor bid packaging
Constructability reviews	Solicit Subcontractor/Supplier Bids*
Operability reviews	Assist in right-of-way acquisition
Regulatory reviews	Assist in permitting actions
Errors and omissions review	Study labor availability/conditions

Market surveys for design decisions	Prepare sustainability certification application
Verify/take-off quantities	Coordinate site visits for subcontractors
Assistance shaping scope of work	COST RELATED
Feasibility studies	Prepare project cost model
SCHEDULE RELATED	Validate Design Consultant estimates
Validate Design Consultant schedules	Prepare project estimates
Prepare and manage project schedules	Cost engineering reviews
Develop sequence of design work	Early award of critical bid packages
Construction phasing	Life cycle cost analysis
Schedule risk analysis/control	Value analysis/engineering
PRE-CONSTRUCTION RELATED FIELD WORK	Material cost forecasting
Utility Identification/Relocation	Cost risk analysis
Potholing	Cash flow projections/Cost control
Preliminary soil and geotech studies	Shape the project scope to meet the budget
Right-of-Way Demolition	Right-of-Way Demolition
Preliminary Surveying	Preliminary Surveying

**Must comply with Authority and LAPM Procurement Procedures.*

VI. PRE-CONSTRUCTION SERVICES AGREEMENTS

The pre-construction services Agreement for the Design Consultant, ICE, and the CM/GC shall include the following provisions:

- A provision allowing unilateral termination by Authority if the approved NEPA environmental document does not result in selection of a build alternative that the Authority and the City supports.
- A provision that the scope of services in the pre-construction phase includes all alternatives identified and considered in the NEPA process for work performed prior to the completion of the NEPA process.
- A provision ensuring that no commitments are made to any alternative during the NEPA approval process and that the comparative merits of all alternatives identified and considered during the NEPA approval process, including the no-build alternative, will be evaluated and fairly considered.
- A provision that the Authority will not proceed, or permit any consultant or contractor to proceed, with the development of shop drawings and fabrication plans before the completion of the NEPA approval process for the project.
- A provision that the Authority will not proceed with the award of a construction contract (including early work packages such as advanced material acquisition or site work) and will not proceed, or permit any consultant or contractor to proceed, with construction until the completion of the NEPA approval process for the project.

In addition to the provisions above, the pre-construction services Agreement for the CM/GC contractor will include:

- A provision that the CM/GC contractor must not prepare NEPA documentation or have any decision-making responsibility with respect to the NEPA environmental document approval process. However, the CM/GC contractor may be requested to provide information about the project and possible mitigation actions, including constructability information, and its work product may be considered in the NEPA analysis and included in the record.
- The pre-construction services will cover all alternatives identified in the NEPA process. However, it should be noted that currently only one build alternative has been proposed
- No commitment is made to support any particular alternative from the NEPA process while the review and comparison, ongoing. This includes the no-build alternative.
- The CM/GC contractor will not prepare the NEPA document or render any decision in the NEPA process. However, this provision will not preclude the CM/GC contractor from providing information, including construction related information, and its work products to be included and/or considered in the NEPA analysis and reports.
- The CM/GC contractor will not be awarded a construction contract until the NEPA approval for the Project is complete.

Final design work done prior to NEPA environmental document approval is called at-risk design. Chapter 6 does not allow at-risk final design. While 23 CFR 635.505 (c) conditionally allows use of at-risk final design, the Division of Local Assistance (DLA) will not allow the Authority to proceed with at-risk final design and the Authority will not undertake at-risk design.

VII. PRE-CONSTRUCTION SERVICES

The CM/GC contractor will provide the Authority and the Design Consultant with information regarding the impacts of design elements on the physical construction of the project, including but not limited to: scheduling, work sequencing, cost estimating, constructability, and risk identification/analysis. Under the preconstruction services contract, the CM/GC contractor may, depending on when procured, provide consulting services during both preliminary design and/or final design. Pre-construction services may include on-site material sampling and data collection to assist the Design Consultant in its design work, but do not include engineering and design related services as defined in 23CFR172.3. Pre-NEPA preconstruction services may include preliminary staging or preliminary falsework plans when needed for the NEPA process.

After award of the pre-construction services contract, the CM/GC contractor becomes a member of the project development team and can perform a variety of pre-construction services at the direction of the Authority.

The following is an overview of the typical activities required in the CM/GC preconstruction phase and included in the pre-construction services contract.

A. Project Kickoff Meeting and Partnering Workshop

The CM/GC contractor pre-construction services will begin with a Project Kickoff Meeting and Partnering Workshop. Given the relatively small size of this project and in order to control costs, the Authority intends to have a combined kickoff meeting and partnering workshop.

The goals of the combined meeting and workshop are to promote understanding of the project, its purposes, scope, schedule, constraints, risks, opportunities, innovation, and status. It is also intended to develop trust, respect and establish lines of communication amongst team members as well as confirmation of roles and responsibilities.

B. Prepare Risk Management Plan/Risk Register

As a follow up activity to the Project Kickoff Meeting, the project team will meet to review and conduct an in-depth discussion on project risks and management strategies. The intended outcome of the meeting is to generate the information needed to develop a well-prepared, initial Risk Register and Risk Management Plan.

The Register will identify potential risks to the project. The identified risks may be related to cost, schedule, public acceptance, engineering, field conditions, permitting, regulations, safety and utility etc. The Register includes a matrix that identifies each risk, potential risk level and impacts to cost and schedule, the party that “owns” and is best equipped to manage the risk, and potential mitigating strategies.

The Risk Register and Management Plan is a living document that will be actively maintained and updated by the CM/GC contractor throughout the pre-construction phase with input from the entire project team throughout the life of the Project. The Authority may elect to transfer ownership of the Risk Register and Management Plan, in whole or in part, to the CM Consultant as the Project enters the construction phase.

C. Prepare Cost Model

The CM/GC contractor will be responsible for preparing a Project Cost Model based on their understanding and input from the project team. The Cost Model is an open and transparent document that documents the CM/GC contractor’s project element breakdown/bid item, pricing assumptions to assist the ICE develop its estimate. It also sets up the basis for cost accounting so that the OPCC or Final Price Proposal can be more readily compared with the ICE’s estimate and the Design Consultant’s EE.

The Cost Model summarizes the CM/GC contractor’s costs related to labor, materials, equipment, and subcontractors and it is based on the anticipated means and methods and production rates for the Project work. It will also include management, home and field office costs, direct costs, mobilization, markups, wastage, profit and allowances for project risks based on the Risk Register.

The preparation of the Cost Model will start with a workshop. It will be continually maintained by the CM/GC contractor and reviewed by the project team prior to each OPCC submittal and also before submittal of the Final Price Proposal.

It is the project team’s goal to achieve general concurrence between the OPCC/Final Price Proposal and the ICE’s estimate and the Design Consultant’s EE.

D. Design Development & Reviews

After contract award, the Design Consultant will complete any outstanding preliminary engineering tasks including engineering support for the NEPA process, if needed.

The Design Consultant will conduct a joint review of the preliminary design and any CEQA/NEPA related conditions when the CM/GC contractor begins its pre-construction services. Upon completion of the NEPA process, the Design Consultant, with input from the CM/GC contractor, will develop a baseline (35%) design and EE. During this process, the Design Consultant will also converse with the CM/GC contractor on cost, constructability, construction staging/phasing and work sequencing/work packages. The work packages may include both pre-construction work such as utility investigation and final construction work. All reasonable innovation concepts and ideas should be considered and documented, either as accepted or provide reasoning why it is not considered any further.

The 35% design will first be provided in draft form to the Authority, the ICE and the CM/GC contractor for review and comment. The Design Consultant and the CM/GC contractor will conduct a workshop to review the design and risks. The design review will be facilitated by the Design Consultant and the risk review will be facilitated by the CM/GC contractor. The workshop will be attended by the Authority, the City, the ICE and the CM/GC contractor. The workshop will include the following discussions at a minimum:

- Confirmation of the project's goals, expectations and the project scope
- Is the project scope properly shown? Are there any design concerns?
- Is the design constructible with typical and cost-effective construction methods?
- Potential areas for improvements and innovation
- Are the design assumptions reasonable and prudent?
- Does the design introduce any undue risk and uncertainty?
- What are the potential impacts from the risks identified and what are the potential mitigation strategies?
- Does the design include sufficient information and/or details to establish a meaningful baseline estimate?

Upon resolution of all comments, the Design Consultant will update and publish the final 35% plan which will become a baseline for the Project. The CM/GC contractor will also update the Risk Register.

As the design further develops, the Design Consultant will institute a process that includes the proper evaluation and responses to the CM/GC contractor's input on design innovation, construction phasing/staging, constructability, work packaging, and risk assignment and management. The Design Consultant will be responsible for obtaining design approval, permitting, preparation of appropriate agreements, utility agreements, ROW documents, ROW acquisition support, and preparation of the EE and the Estimate Variance Report.

E. Innovation Management

The CM/GC Contractor will be responsible for developing, proposing, tracking challenges and opportunities, quantifying benefits for innovations during both pre-construction and construction phases. Some of these attributes will be documented in the Risk Register or Innovation Register. They

will coordinate and consult with the Authority and the Design Consultant to develop criteria to evaluate innovation ideas based on cost, schedule and risk aversion considerations.

The CM/GC contractor will prepare, update and maintain an Innovation Register that identifies the person and entity that proposes an idea, and the benefits of the idea. Such benefits will include cost, value, schedule, and risk reduction impacts. The register will track the ideas that are accepted and carried forward into the final design. It will also identify the ideas that are not carried forward and document the reasoning why these ideas are dropped. The CM/GC contractor will update and submit the register concurrent with each major design submittal made by the Design Consultant. As part of its pre-construction services, the CM/GC contractor is responsible for identifying and recommending that all valid innovation ideas be incorporated into the design plans to maximize benefits to the Project. Discussion and implementation of these ideas should not be deferred to the construction phase and then proposed as a Cost Reduction Incentive Proposal (CRIP) or Value Engineering Change Proposal (VECP) by the CM/GC contractor.

F. Risk Workshop

The Risk Workshop will take a half-day to full-day and occurs in conjunction with, or shortly after, the Design Review Workshop. The Risk Workshop allows the project team to review and evaluate project risks and update the Risk Register.

G. Develop and Submit Cost Estimates and Schedule

The ICE and the CM/GC contractor will each independently prepare a bottom-up, production-based cost estimate and construction schedule based on the 35% baseline plans developed by the Design Consultant and the Risk Register and construction schedule prepared by the CM/GC contractor. Separately, the Design Consultant will independently prepare an EE based on contract bid items, market rates and adjusted for the specific conditions for the Project.

All three estimates will be submitted separately to the Authority. The Design Consultant will develop a variance report that will show the OPCC and identify any significant (typically 10% or more) variances from the ICE's estimate for each of the major cost items. These cost items would follow the item list previously identified in the Project Cost Model.

H. Price Reconciliation Meeting

Following the estimate submission developed from the 35% Plans, the Authority, the CM/GC contractor, the ICE and the Design Consultant will participate in a Price Reconciliation Meeting. This meeting is expected to take up to one day, or longer if the price discrepancy cannot be readily reconciled especially if there are significant differences.

The meeting is intended to review the adopted assumptions and to reconcile the CM/GC contractor's OPCC and the estimate developed by the ICE. During the meeting, the CM/GC contractor and the ICE will articulate and justify their pricing assumptions and risk assignment that feed into their OPCC or estimate. The Design Consultant will participate as an observer to better understand the project cost

and risks in order to improve on the project design. The Design Consultant will not partake in any active pricing discussion or disclose the EE.

I. Adjust Cost Model, Schedule, and Pricing

Subsequent to the Reconciliation Meeting, the Authority and the CM/GC contractor will meet to agree on changes to the pricing assumptions. The CM/GC contractor will then revise the Project Cost Model and schedule to reflect the agreed upon changes. The OPCC will also be revised and upon concurrence from the Authority, it will become the Project Baseline Construction Cost. All changes will be documented. Similarly, the ICE's estimate and the EE will also be revised.

J. Subsequent OPCCs

As the design is further developed, the pricing, estimating and reconciliation processes described for the 35 percent design will be repeated at the 65% and 90% design milestones. If there are any significant design, scope or market changes, additional interim updates may be prepared. This allows the Authority to closely track the cost and schedule of the Project as the design progresses, and minimizes the likelihood of unanticipated significant changes. If the Authority and the CM/GC contractor are unable to reconcile the OPCC and the ICE's estimate, this process provides the Authority an early opportunity to take the necessary actions to keep the Project on track and on budget.

VIII. PRE-NEPA APPROVAL PROCUREMENT AND REQUIREMENTS

It is the Authority's intent to procure CM/GC contractor services early so that constructive input can be incorporated into the design for the project. Depending on the procurement and the environmental process, the CM/GC contractor may begin work prior to the NEPA approval for the Project. If this happens, the services provided by the CM/GC contractor will be limited to those that would not jeopardize or affect the integrity of the NEPA process. As a safeguard, the CM/GC contractor Agreement has included specific provisions identified in Section VI "Pre-Construction Services Agreements" of this memo.

IX. WORK PACKAGES

The CM/GC procurement method provides a number of benefits, including the flexibility for the construction to be broken up into multiple work packages. Certain advance work items may be allowed to proceed before the final design is complete or all approvals have been obtained; thereby shortening the project schedule and likely reducing costs.

The work package must be discrete, minor and independent element or phase of construction that do not commit the Authority to needing the CM/GC contractor to constructing other phases of the Project unless there is already an agreement on the Final Price and executed agreement for the construction of the entire project. Prior to awarding an early work package, CCTA may require the CM/GC contractor to update the OPCC in order to verify if the project stays within the planned budget.

Each construction work package has to undergo review and awarded following the Price Analysis Process and require Caltrans and FHWA approvals prior to proceeding. As such, a single package can be more efficient as it minimizes the review and approval effort. It also provides the benefit that the Final Price Proposal covers the entire project, and not just part of the project and therefore allows the Authority to determine if the total construction cost is consistent with the overall project construction budget. This also allows the Authority to provide Caltrans and FHWA with an updated project cost estimate prior to Caltrans' and FHWA's authorization of the work packages and construction services.

As previously stated, early work packages have the potential to shorten the project schedule. These packages will cover a defined scope that is part of the overall project construction scope of work. Such packages may include utility relocation, clear and grub, tree trimming, demolition, removal of known hazardous materials, staging area preparation, procurement of long-lead items or items subject to unusual price changes, and detail and shop drawing preparation of complex project elements, etc. The scoping and timing of possible work packages will be determined during the pre-construction phase. Early work packages will only proceed when it benefits the Project and will not be used for the purpose to circumvent State and Federal contracting rules. The Authority, after consultation with the City, Caltrans and FHWA, will make all final decisions related to work packages.

Field investigative work performed by the CM/GC Contactor to assist Design Consultant is considered part of the CM/GC contractor's pre-construction services and no separate Caltrans or FHWA approval is needed.

X. PRICE ANALYSIS PROCESS

When the design reaches the 90% design stage, the Plan and Specifications Package will be submitted to Caltrans and FHWA for approval. The package will include permit conditions, environmental and mitigation measures stated in the CEQA and NEPA approval documents.

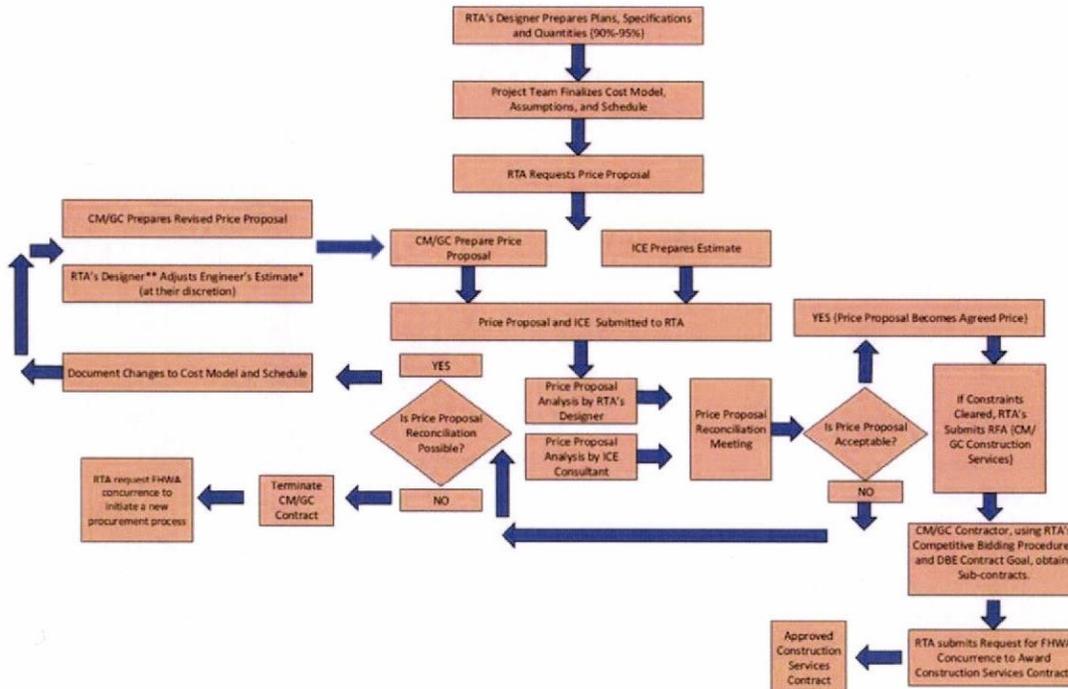
Upon Caltrans and FHWA approval, the 90% Plan and Specifications Package will be transmitted to the CM/GC contractor to develop their Final Price Proposal. The Final Price Proposal should be based on the updated Project Cost Model and include the direct cost of performing the work (labor, materials, equipment, etc.), overhead and profit. Depending on the schedule and the work to be performed by the CM/CG Contractor or by subcontractors, the CM/GC contractor will either include construction prices for the entire project, or include placeholders for subcontractors' work until subcontractor bids are received. This process may also include outreach to potential DBEs.

Subcontractor and Supplier contracts must be procured using an open and competitive bid process following a subcontracting plan to be prepared by the CM/GC contractor and approved by Caltrans and FHWA. The plan must demonstrate how it will generate competition, meet the project DBE requirements, and fulfill the minimum self-perform work as stipulated in the PCC.

The CM/GC contractor will submit the Proposed Final Price to the Authority, which will be analyzed following the process in Figure 2. The Final Price Proposal will be valid for a prescribed period that will provide sufficient time for the Authority to review the Proposal, conduct negotiations and enter into an

agreement with the CM/GC contractor. The Authority will review the submitted price against the ICE's estimate and the EE. If necessary, a price reconciliation meeting will be held to discuss any significant differences between the Final Price Proposals and the estimates even though the estimates will not be provided to the CM/GC contractor. The Authority may request the CM/GC contractor to revise and resubmit a revised Final Price Proposal. If necessary, the same process can be repeated until either an agreement on the price can be reached or the Authority decides to terminate further discussion in which case the work will be publicly advertised. Under that scenario, the CM/GC contractor is excluded from submitting or participating in any bid for the Project. The process is displayed in Figure 2 below.

FIGURE 2: CM/GC Construction Price Analysis Process



Contingency is accounted for in every contractor's bid or cost proposal regardless of the contracting mechanism, and is reflective of the contractor's understanding of the known or perceived risks at the time the bid is prepared. Typically, higher contingencies reflect higher perceived risks and lower contingencies reflect lower perceived risks. The CM/GC contracting method provides the opportunity for the Authority and the CM/GC contractor to work together to better understand, manage, mitigate and assign risks between CCTA and the CM/GC contractor. The agreed-upon risk assignment should be reflected in the CM/GC contractor's price proposal.

The contingency amounts will be determined based on the Risk Register and the cost and schedule impacts of the risks identified. The monetization of the risks can be based on anticipated cost based on engineering estimates. In complex cases, the amount may be determined using simulation methods

such as the Monte Carlo Method. The cost of supplemental work should be added to the agreed-upon price, including contingency, to provide the total construction cost.

Caltrans and FHWA will also review the Price Proposal analysis and provide comments to the Authority. Once an agreement is reached over the price, the Authority will finalize the Plans and Specifications package and obtain all the needed ROW, approvals and permits. The Authority also needs to prepare ROW and utility certifications before submitting the Request for Authorization for federal funds.

If the Price Proposal is more than 10% higher or lower than the ICE's estimate, the project team will provide justification in the recommendation to award memorandum included in the Request for Authorization (RFA) submitted by the Authority to Caltrans Local Assistance. If the Price Proposal is within the available project budget and 10% of the ICE's independent estimate, no justification needs to be provided.

Once Caltrans and FHWA provide the Construction Authorization, the Authority Governing Board will approve the award of the construction contract to the CM/GC contractor. The contract will then be executed following the Authority's contracting processes.

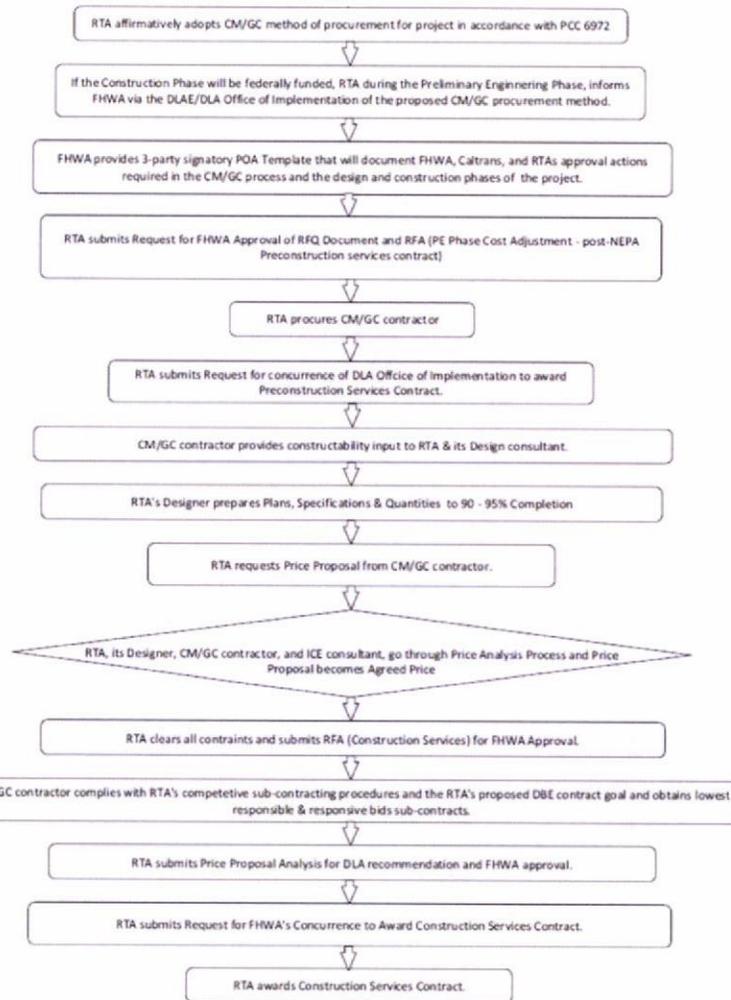
XI. FEDERAL HIGHWAY ADMINISTRATION

FHWA involvement is required on projects with federal funding. FHWA's Final Rule for CM/GC outlines requirements, including FHWA approvals, specific to federally funded CM/GC projects. As the Authority plans to use federal-aid funding for construction services, the CM/GC RFQ and associated cost analysis (for pre-construction services) will require FHWA approval. The Authority will send the CM/GC RFQ to the Caltrans District Local Assistance Engineer (DLAE) for review and approval. The RFQ will also be sent to FHWA for approval through DLAE and the DLA Office of Implementation. FHWA's approval of the RFQ Document will constitute FHWA's approval to use the CM/GC contracting method and release the RFQ Document. The DLA Office of Implementation will transmit FHWA's authorization & RFQ Document approval or disapproval of the RFQ Document to the DLAE for transmittal to the Authority. The Authority must, through the DLAE & the DLA Office of Implementation, request FHWA's authorization of preliminary engineering (PE), even though only local funds will be used. Also, FHWA must approve Major Addenda to the RFQ. A Major Addendum includes, but is not limited to, changes to the selection method, evaluation criteria, or significant changes to the scope of services. CM/GC projects are Projects of Division Interest (PoDI) by default, therefore, requiring a Project Oversight Agreement (POA). Since the Authority has determined that it will deliver the project using the CM/GC method of procurement, it will request that FHWA to provide it with a tri-party (FHWA, DLA and CCTA) POA template, and the request will be made through the DLAE/DLA Office of Implementation. Table 2 is an overview of standard FHWA involvement on federally funded CM/GC projects. This list may be modified and tailored to this CM/GC project through the POA. The flow chart shown in Figure 3 shows the general CM/GC approval process for pre-construction and construction services for the project. This scenario assumes a post-NEPA pre-construction services contract, no early work package and one construction contract for the main portion of Construction.

TABLE 2: CM/GC Projects Action Responsibility Matrix

ACTIVITY	LOCAL AGENCY ACTION	CALTRANS ACTION	FHWA ACTION
Project Delivery Selection	Determine and Notify	Notify	None
Potential Conflict of Interest	Determine and Notify	Notify	None
Cost or Price Analysis for Pre-construction Services Procurement	Prepare	Review & Recommend	Approve
Preliminary Engineering Authorization (including cost of Pre-construction)	Prepare	Review & Recommend	Authorize (5 Days)
RFQ	Prepare	Review & Recommend	Approve (14 Days)
RFQ Clarifications	Prepare	None	None
RFQ Addenda	Prepare	Review & Concur	Review
Major RFQ Addenda	Prepare	Review & Recommend	Approve (5 Days)
Re-issuing Procurement	Determine	Notify	None
Use Another Procurement Process	Prepare	Review & Recommend	Concur
Cancelling Procurement	Determine & Notify	Notify	None
SOQ Evaluations	Prepare	Observe	Observe
Short-List	Prepare	None	None
Debriefing	Conduct	Participate	Participate
35%/65%/90% Plans	Prepare	Review & Comment	Review
Price Variance Report	Prepare	Review	Review
Price Reconciliation Meeting	Prepare	Observe	Observe
Proceed with at-risk final design	N/A	N/A	N/A
Plans and Specifications	Prepare	Review & Recommend	Approve (14 Days)
Plans and Specifications Addenda	Prepare	Review & Recommend	Approve (3 Days)
Use of Early Work Package	Prepare	Review & Recommend	Approve (3 Day)
Price Estimate for Entire Project	Prepare	Review & Recommend	Approve (5 days)
Indirect Cost Rate	Submit	Approve	None
Price Proposal Analysis	Prepare	Review & Recommend	Approve (5 days)
Reject Price Proposal	Notify	Review & Concur	None
Terminate CM Contract	Notify	Review & Concur	None
Request for Construction Authorization	Prepare	Review & Recommend	Authorize (7 Days)
Request for Concurrence in Award	Prepare	Review & Recommend	Concur in Award (5 Days)
Post-NEPA approval review of at-risk final design costs for eligibility	Prepare	Review & Recommend	Review and Approve

FIGURE 3: CM/GC Process



The provisions of 23CFR630 and 23CFR635 apply to CM/GC contracts. As discussed in Section 7, the RFQ may be issued prior to or after approval of the NEPA environmental document. Upon approval of the NEPA environmental document and FHWA authorization, pre-construction services related to final design may be eligible for reimbursement. Once design has reached a level where a Final Price Proposal can be solicited, and agreed to move through the Price Analysis Process as shown in Figure 2, the Authority will submit a Request for Authorization of the Construction Services. FHWA will review and approve the price analysis and agreed price prior to authorization of construction services.

After FHWA authorization of the construction services contract, the Authority will direct the CM/GC contractor to obtain subcontractor bids utilizing the CCTA procurement procedures and the Authority's DBE contract goal. The Authority then replaces the subcontractor plug-in values with the responsive &

responsible bids on the subcontracts and requests FHWA concurrence through DLA to award the construction services contract. The Authority will provide FHWA a copy of the final executed construction services contract through the DLAE & DLA Office of Implementation. Appendix B lists several scenarios and documents that should be submitted to DLA and FHWA through the DLAE for CM/GC procedures for federally funded local projects.

XII. PROGRESS REPORT

Within 60 days after a project is completed using the CM/GC method, CCTA shall prepare a progress report to its governing Board. The progress report shall include, but not be limited to, the following information:

- A description of the project.
- The name of the entity that was awarded the project.
- The estimated and actual costs of the project.
- The estimated and actual schedule for project completion.
- A description of any written protests concerning any aspect of the solicitation, bid, proposal, or award of the project, including, but not limited to, the resolution of the protests.
- An assessment of the prequalification process and criteria required by the Chapter 6.7 of the PCC.
- A description of the method used to evaluate the bid or proposal, including the weighting of each factor and an assessment of the impact of this requirement on a project.
- A description of any challenges or unexpected problems that arose during the construction of the project and a description of the solutions that were considered and ultimately implemented to address those challenges and problems.
- Recommendations to improve the CM/GC method.

The progress report shall be made available on the Authority's Website. The Authority shall send a copy of the progress report to Caltrans DLA Implementation and FHWA.

XIII. COMPLIANCE TO PROJECT DELIVERY MEMORANDUM

Implementation of the San Ramon Iron Horse Trail Overcrossing Project, utilizing GM/GC procurement, will follow the procedures described in this memorandum. No material modifications will be made without the prior written approval from Caltrans and FHWA.

Attachment A: Cooperative Agreement – City of San Ramon/Contra Costa Transportation Authority

Attachment B: Project Delivery Selection Workshop Summary Report

Distribution
Caltrans (Local Assistance)
FHWA
City of San Ramon

DRAFT



CITY OF SAN RAMON
OFFICE OF THE CITY ATTORNEY

7000 BOLLINGER CANYON ROAD
SAN RAMON, CALIFORNIA 94583
PHONE: (925) 973-2549
WWW.SANRAMON.CA.GOV

August 8, 2019

Ivan Ramirez
Director of Construction
Contra Costa Transportation Authority
2999 Oak Road, Suite 100
Walnut Creek, CA 94597

Dear Mr. Ramirez:

Enclosed for your records is a fully executed original of the Agreement with the City of San Ramon for Agreement No. 12SW.05 Environmental Documents, Plans, Specifications and Estimate (PSE), Right-Of-Way (ROW), Utilities, and Construction Phases for the Iron Horse Trail/Bollinger Canyon Road Pedestrian Overcrossing.

Please include Contract number C2019-045 on all invoices submitted for payment. If you have any questions, please contact the Project Manager.

Sincerely,

Naomi Yun
Paralegal
City Attorney's Office

cc: D. Amaral, Administrative Analyst
L. Bobadilla, Transportation Division Manager
M. Fierner, Public Works Director
City Clerk (original C2019-045)
Purchasing Administration File

ORIGINAL

COOPERATIVE AGREEMENT NO. 12SW.05

CONTRACT NO.: C2019-045

DATE: 08.08.2019

BETWEEN

CONTRA COSTA TRANSPORTATION AUTHORITY

AND

CITY OF SAN RAMON

FOR

ENVIRONMENTAL DOCUMENTS, PLANS, SPECIFICATIONS AND ESTIMATE (PSE), RIGHT-OF-WAY (ROW), UTILITIES, AND CONSTRUCTION PHASES FOR THE IRON HORSE TRAIL/BOLLINGER CANYON ROAD PEDESTRIAN OVERCROSSING

I. PARTIES AND TERM

- A. THIS COOPERATIVE AGREEMENT ("Agreement") effective on Aug. 8, 2019 is made and entered into by and between the Contra Costa Transportation Authority (AUTHORITY) and the City of San Ramon (CITY), (AUTHORITY and CITY may be referred to herein as a "Party" and collectively "Parties").
- B. This Agreement shall terminate upon completion of the AUTHORITY's management of the environmental, preconstruction services, Plans Specification and Estimates (PSE), ROW, utilities, construction, construction administration, closeout and reimbursement by CITY for the same, or December 31, 2025, whichever is earlier in time, except that the indemnification provisions shall remain in effect until terminated or modified, in writing, by mutual agreement. Should any claims arising out of this Agreement be asserted against one of the Parties, the Parties agree to extend the fixed termination date of this Agreement, until such time as the claims are settled, dismissed or paid.

II. RECITALS

- A. WHEREAS, CITY intends to construct a bicycle and pedestrian overcrossing at Bollinger Canyon Road to become part of the Iron Horse Trail in the City of San Ramon (PROJECT) – a detailed description of the PROJECT is set forth in Attachment A; and
- B. WHEREAS, the project may be designed and constructed using design-bid-build, design-build or construction manager/general contractor procurement methods; and
- C. WHEREAS, the CITY adopted the Initial Study and Mitigated Negative Declaration pursuant to the California Environmental Quality Act (CEQA) on November 28, 2017; and
- D. WHEREAS, the CITY has secured One Bay Area Grant (Cycle 2) and other funding for the PROJECT; and

- E. WHEREAS, the Parties consider PROJECT to be high priority and are willing to participate in implementing the PROJECT; and
- F. WHEREAS, the Parties wish to enter into this Agreement to delineate roles, responsibilities, and funding commitments relative to the Project Management, Environmental Services, Preconstruction Services, Plans Specifications and Estimates (PSE), ROW, Utility, Construction, Construction Administration and Closeout services of the PROJECT; and
- G. WHEREAS, coordination with Caltrans has not occurred to determine the level of National Environmental Policy Act (NEPA) environmental documents; and
- H. WHEREAS, the PROJECT is estimated to cost a total of \$20,800,000 as shown in Attachment B; and
- I. WHEREAS, the CITY desires the AUTHORITY to provide project management services defined as pre-design consultations, Environmental Compliance, Preconstruction Services, PSE, ROW, Utility, Construction, Construction Administration and Closeout services, estimated at \$766,000, and understands it is the sole responsibility of CITY to pay 100% of actual AUTHORITY project management costs agreed upon in advance; and
- J. WHEREAS, the remaining PROJECT cost, aside from AUTHORITY project management costs, for the project management services is estimated at \$20,034,000 which shall be funded with local, Measure J and One Bay Area Grant and other per attached funding summary as shown in Attachment C and
- K. WHEREAS, it is mutually understood that the PROJECT will likely proceed in phases including (i) predesign and NEPA environmental clearance, (ii) preconstruction including design, price proposal and bidding, and (iii) construction and closeout. The work scope, budget and timelines of deliverables for each phase will be stipulated in individual task order for each phase; dependent upon design and construction methodology.

NOW, THEREFORE, the Parties agree to the following:

III. AUTHORITY RESPONSIBILITIES

AUTHORITY agrees:

- A. To coordinate with CITY to determine the best method of final delivery of the PROJECT including consideration of design-bid-build, design-build and construction manager/general contractor (CM/GC) methods. Final selection of the delivery method shall be made by CITY.
- B. To procure the services of a design team to develop 35%, 65%, and 95% PSE, and Final Plans, and to provide design support during construction and closeout.

- C. To assist CITY with procuring a CM/GC to perform preconstruction and construction services if the CITY selects CM/GC as the procurement method. It is understood and agreed the Parties are pursuing legislative authorization for the AUTHORITY to directly contract for CM/GC services. If such legislative authorization is obtained and all other applicable legal and funding requirements authorize the same, the AUTHORITY shall contract directly for a CM/GC to perform preconstruction and construction services for the PROJECT if the CITY selects CM/GC as the procurement method. Otherwise, the CITY will procure a CM/GC and designate the AUTHORITY as its authorized representative under the contract with the CM/GC.
- D. To coordinate with CITY for CEQA revalidation, if required.
- E. To coordinate with CITY and CALTRANS to obtain NEPA environmental approval including any technical reports and materials.
- F. To coordinate with CITY and provide services for any ROW acquisition required. Final acquisition of any ROW or the execution of licenses and/or maintenance agreements shall be the responsibility of CITY.
- G. To provide utility coordination services and work with the CITY on required documents, utility relocations and agreements.
- H. To be the lead agency on PSE, preconstruction services, construction, construction administration and closeout work, to diligently undertake and complete, preconstruction services, PSE, construction, construction administration and closeout work on PROJECT, including the selection, management and retention of consultants and contractors.
- I. To include CITY in Project Development Team (PDT) meetings and related communications on PROJECT progress as well as to provide CITY with copies of PDT meeting minutes and action items.
- J. To provide CITY an opportunity to review and comment on, and where appropriate approve the environmental, preconstruction, PSE, ROW, and utility support documents, construction and construction administration documents.
- K. Performance of services under these consultant and construction contracts shall be subject to the technical direction of the AUTHORITY's Director of Construction, or his designee, with input and consultation from CITY.
- L. To facilitate and coordinate obtaining from CALTRANS one or more E-76, formally called an "Authorization to Proceed", prior to advertising for professional or construction contracts for PROJECT that are funded by either State or Federal sources. Actual obtainment of the E-76 will be the responsibility of CITY.

- M. To review environmental documents prepared by CITY and its consultants and provide comments in a timely manner; and, if changes to the design warrant addenda to environmental documents subsequent to those prepared by CITY, to prepare such addenda
- N. To seek reimbursement from CALTRANS on work performed during the preconstruction, PSE, or construction phases of the PROJECT which is funded by either State or Federal sources as shown in Attachment C and to undertake similar measures, as appropriate, for any additional State, Federal or other grant funding that may be obtained by CITY. The actual cost of a specific phase may ultimately vary from the estimates provided and the final reimbursement amount shall be adjusted based on the State or Federal funding agreements.
- O. To prepare and submit to CITY an original and two copies of signed invoices for reimbursement of eligible PROJECT expenses. Invoices may be submitted to CITY as frequently as monthly.
- P. To establish and maintain an accounting system conforming to Generally Accepted Accounting Principles (GAAP) to support AUTHORITY's request for reimbursement, payment vouchers, or invoices which segregate and accumulate costs of project management, preconstruction, PSE, ROW, utility, construction, construction administration and closeout work elements and produce monthly reports which clearly identify reimbursable costs, matching fund costs, indirect cost allocation, and other allowable expenditures by AUTHORITY.
- Q. To prepare a final accounting of expenditures, including a final invoice for the actual project management, preconstruction, PSE, ROW, utility, construction, construction administration and closeout costs expended for the PROJECT. The final accounting of expenditure and invoice shall be submitted no later than one hundred and twenty (120) calendar days following the completion of work including resolution of any claims and shall be submitted to CITY. The invoice shall include a statement that these PROJECT funds were used in conformance with this Agreement and for those PROJECT-specific project management, preconstruction, PSE, ROW, utility, construction, construction administration and closeout work activities, as approved by CITY.
- R. To cooperate in having a PROJECT-specific audit completed by CITY, at its option, upon completion of the project management, preconstruction, PSE, ROW, utility, construction, construction administration and closeout work on the PROJECT. The audit is intended to justify and validate that all funds expended on the PROJECT were used in conformance with this Agreement. The auditor shall be selected by CITY.
- S. To reimburse CITY for costs that are determined by subsequent audit to be unallowable within ninety (90) calendar days of AUTHORITY receiving notice of audit findings, which time shall include an opportunity for AUTHORITY to respond to and/or resolve the finding. Should the finding not be otherwise resolved and AUTHORITY fails to reimburse monies due CITY within ninety (90) calendar days of audit finding, or within such other period as may be agreed

between both Parties hereto, the CITY reserves the right to withhold future payments for the project due AUTHORITY from any source under CITY'S control.

- T. To attend City Council, Committee, Commission, and Public meetings to present design recommendations, project updates and other information, as needed.

IV. CITY RESPONSIBILITIES

CITY agrees:

- A. To coordinate with AUTHORITY to determine the best method of final delivery of the PROJECT including consideration of design-bid-build, design-build and CM/GC methods and to make final selection of the delivery method. In the event CITY selects a project delivery method the AUTHORITY is not authorized to utilize, CITY will directly contract for such project delivery method and designate the AUTHORITY as its authorized representative under such contract.
- B. To seek additional funding for PROJECT implementation.
- C. To be the lead agency for obtaining NEPA approval.
- D. To be the lead agency for CEQA approval or revalidation.
- E. To be the lead agency for ROW acquisition and associated eminent domain proceedings if deemed necessary and authorized by CITY's governing body.
- F. To be the lead agency for obtaining the E-76.
- G. To assume the role of Owner pertaining to utility relocation requests made under the CITY franchise agreements to facilitate the construction of the PROJECT and for any new service connections.
- H. To enter into any required maintenance agreements and prepare any required easements for PROJECT prior to construction.
- I. To reimburse AUTHORITY for the actual costs incurred estimated at \$20,800,000 towards the project management, preconstruction services, PSE, ROW, utility, construction and closeout phases of the PROJECT cost as shown in Attachment B. The actual cost of a specific phase may ultimately vary from the estimates provided in Attachment B; however, under no circumstances is the total combined CITY contribution to exceed the amount set forth above without an amendment to this Agreement.
- J. To reimburse AUTHORITY within 30 days after AUTHORITY submits an original and two copies of the signed invoices in the proper form covering those PROJECT expenditures that were incurred by AUTHORITY and prior to CITY's receipt of reimbursement from other sources. CITY shall pay the undisputed amount of any disputed invoice.

- K. When conducting an audit of the costs claimed under the provisions of this Agreement, to rely to the maximum extent possible on any prior audit of AUTHORITY performed pursuant to the provisions of State and Federal laws. In the absence of such an audit, work of other auditors will be relied upon to the extent that work is acceptable to CITY when planning on conducting additional audits.
- L. To designate a responsible staff member that will be CITY's representative in attending all meetings between the parties or pertaining to the project, receiving day-to-day communication and reviewing the PROJECT documents.
- M. To complete review and provide comments on the preconstruction, PSE, ROW and utility support documents, construction, construction administration and closeout documents within 30 days, or other durations as mutually agreed between Parties, of receiving the review request from AUTHORITY.
- N. CITY's City Manager is authorized to act on behalf of CITY under this Agreement.
- O. Subject to applicable law and funding restrictions, CITY has ultimate authority to make final decisions on changes to the design, procurement methods and payment.
- P. To formally accept the project through City Council action following completion.
- Q. To facilitate public meetings, meetings with the City Council, Committees, Commissions and the public regarding the project.

V. MUTUAL RESPONSIBILITIES

The Parties agree:

- A. To abide by all applicable federal, state and local laws and regulations pertaining to the PROJECT as of the Effective Date of this Agreement.
- B. In the event AUTHORITY determines PROJECT project management services, environmental, preconstruction, PSE, ROW, utility, construction, construction administration and closeout work may exceed the amounts identified in Attachment B of this Agreement, AUTHORITY shall inform CITY of this determination and thereafter the Parties shall work together in an attempt to agree upon an amendment to either the scope of the Project or the amounts identified in this Agreement, or both. In no event, however, shall CITY be responsible for PROJECT costs in excess of the amounts identified in this Agreement absent a written amendment that is approved by both Parties.
- C. Eligible PROJECT reimbursements shall include only those costs incurred by AUTHORITY for PROJECT-specific work activities that are described in this Agreement.
- D. Neither AUTHORITY nor any officer, director, employee or agent thereof is responsible for any injury, damage or liability occurring or arising by reason of anything done or omitted to be done by CITY and under or in connection with any work, authority or jurisdiction delegated to CITY under this Agreement. It is understood and agreed that, pursuant to Government Code Section 895.4, CITY shall fully defend, indemnify and save harmless AUTHORITY, its officers, directors, employees or agents from all claims, suits or actions of every name, kind and description brought for or on account of injury (as defined by Government Code Section 810.8) occurring by reason of anything done or omitted to be done by CITY under or in connection with any work, authority or jurisdiction delegated to CITY under this Agreement.
- E. Neither CITY nor any officer, director, employee or agent thereof is responsible for any injury, damage or liability occurring or arising by reason of anything done or omitted to be done by AUTHORITY and under or in connection with any work, authority or jurisdiction delegated to AUTHORITY under this Agreement. It is understood and agreed that, pursuant to Government Code Section 895.4, AUTHORITY shall fully defend, indemnify and save harmless CITY, its officers, directors, employees or agents from all claims, suits or actions of every name, kind and description brought for or on account of injury (as defined by Government Code Section 810.8) occurring by reason of anything done or omitted to be done by AUTHORITY under or in connection with any work, authority or jurisdiction delegated to AUTHORITY under this Agreement.
- F. This Agreement shall terminate upon completion of the AUTHORITY's management of the environmental, preconstruction, PSE, ROW, construction, construction administration, closeout and reimbursement by CITY for the same, or December 31, 2025, if construction work on the project has not commenced by that date, whichever is earlier in time, except that the indemnification provisions shall remain in effect until terminated or modified, in writing, by mutual agreement. Notwithstanding any other provision herein, to the extent consistent with

the terms and obligations hereof, any Party may terminate this Agreement at any time, with or without cause, by giving thirty (30) calendar days written notice to all the other Parties. In the event of a termination, the Party terminating this Agreement shall be liable for any costs or other non-cancellable obligations it may have incurred or the non-terminating Party may have incurred for the benefit of the terminating Party under the terms of the Agreement prior to termination.

- G. The Recitals to this Agreement are true and correct and are incorporated into this Agreement.
- H. All signatories hereto warrant that they are duly authorized to execute this Agreement on behalf of said Parties and that by executing this Agreement, the Parties hereto are formally bound to this Agreement.
- I. Except on subjects preempted by federal law, this Agreement shall be governed by and construed in accordance with the laws of the State of California. Venue shall be in Contra Costa County. All Parties agree to follow all local, state, and federal laws and ordinances with respect to the performance of this Agreement.
- J. The Parties agree that each Party and any authorized representative, designated in writing to the Parties, and upon reasonable notice, shall have the right during normal business hours to examine all Parties' financial books and records with respect to this Agreement. The Parties agree to retain their books and records for a period of three (3) years from the later of; a) the date on which this Agreement terminates; or b) the date on which such book or record was created.
- K. If any clause or provision of this Agreement is illegal, invalid or unenforceable under applicable present or future laws, then it is the intention of the Parties that the remainder of this Agreement shall not be affected but shall remain in full force and effect.
- L. This Agreement cannot be amended or modified in any way except in writing, signed by all Parties hereto.
- M. Neither this Agreement, nor any of the Parties' rights, obligations, duties, or authority hereunder may be assigned in whole or in part by either Party without the prior written consent of the other Party in its sole, and absolute, discretion. Any such attempt of assignment shall be deemed void and of no force and effect.
- N. No waiver of any default shall constitute a waiver of any other default whether of the same or other covenant or condition. No waiver, benefit, privilege, or service voluntarily given or performed by a Party shall give the other Party any contractual rights by custom, estoppel, or otherwise.
- O. In the event of litigation arising from this Agreement, each Party to this Agreement shall bear its own costs, including attorney(s) fees. This paragraph shall not apply to the costs or attorney(s) fees relative to paragraphs D and E of this Section.
- P. This Agreement may be signed in counterparts, each of which shall constitute an original. This Agreement is effective and shall be dated on the date executed by AUTHORITY.

- Q. Any notice required, authorized or permitted to be given hereunder or any other communications between the Parties provided for under the terms of this Agreement shall be in writing, unless otherwise provided for herein, and shall be served personally or by reputable courier addressed to the relevant party at the address/fax number stated below:

If to AUTHORITY: Ivan Ramirez
Director of Construction
2999 Oak Road, Suite 100
Walnut Creek, CA 94597
Telephone: 925-256-4737

If to CITY: Robin Bartlett
Division Manager
7000 Bollinger Canyon
San Ramon, CA 94583
Telephone: (925) 973-2683

- S. There are no third party beneficiaries, and this Agreement is not intended, and shall not be construed to be for the benefit of, or be enforceable by, any other person or entity whatsoever.
- T. This Agreement, with its exhibits, represents the entire understanding of AUTHORITY and CITY as to those matters contained herein, and supersedes and cancels any prior or contemporaneous oral or written understanding, promises or representations with respect to those matters covered hereunder. Each Party acknowledges that no representations, inducements, promises or agreements have been made by any person which are not incorporated herein, and that any other agreements shall be void. This Agreement may not be modified or altered except in writing signed by both Parties hereto. This is an integrated Agreement.

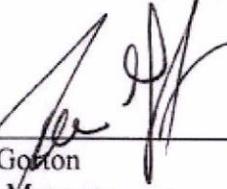
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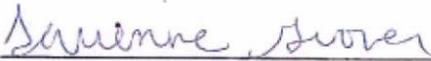
**SIGNATURE PAGE TO
COOPERATIVE AGREEMENT NO. 12SW.05
BETWEEN
CONTRA COSTA TRANSPORTATION AUTHORITY
AND CITY OF SAN RAMON**

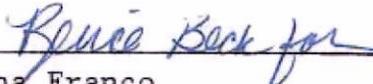
**CONTRA COSTA TRANSPORTATION
AUTHORITY**

CITY OF SAN RAMON

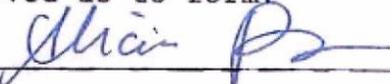
By: 
Robert Taylor
Chair

By: 
Joe Gordon
City Manager

Attest: 
Tarienne Grover
Clerk of the Board

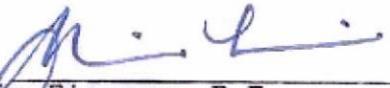
Date: 8/2/19
Attest: 
Christina Franco
City Clerk

By: 
Malathy Subramanian
Authority Counsel

Approved as to form:
BY: 

Date: 7/19/17

for Martin Lysons
City Attorney

By: 
Maria Fierner, P.E.
Public Works Director

Attachment A

PROJECT DESCRIPTION

The project will consist of a cable stay bridge, approach ramps, right of way acquisition, utility relocation and all associated improvements necessary to construct a fully functional, aesthetically pleasing structure to carry bicycles and pedestrians using the Iron Horse Trail over Bollinger Canyon Road, as approved by the City Council. The bridge will have a central tower constructed in the existing west bound Bollinger Canyon Road left turn lane to Bishop Ranch 1 located immediately adjacent to the Iron Horse Trail. The bridge will have a main span of approximately 200 feet with auxiliary spans on each side of up to 70 feet per side. The bridge will have a usable deck width of at least 16 feet. It is anticipated that the tower structure will be on the order of 64 feet above the existing road grade and will be configured so as to allow the bridge to be used by maintenance vehicles. Ramps will be provided to the bridge that will be either be structurally supported or supported by retaining walls. The ramps will meet ADA requirements. The retaining walls may be constructed of mechanically stabilized earth. Stairs will also be provided to access the bridge from both sides near the existing sidewalk. Landscaping and stormwater management features will be included with the project as close to the bridge as possible. The project will be constructed in accordance with all currently applicable codes and regulations. Sketches of the design concept are included with this attachment.

Attachment B

PROJECT COST ESTIMATE

ACTIVITIES	AMOUNT
PROJECT MANAGEMENT (CCTA) <i>(including Caltrans Local Assistance coordination and NEPA approval)</i>	\$766,000
DESIGN	\$1,684,000
CONSTRUCTION <i>(including CMGC preconstruction services, environmental mitigation and utility relocation)</i>	\$15,320,000
CONSTRUCTION SUPPORT <i>(including Design Support During Construction & Permit Fees)</i>	\$3,030,000
TOTAL PROJECT COST	\$20,800,000

Attachment C

PROJECT FUNDING TABLE

FUNDING SOURCE	AMOUNT
City of San Ramon General Fund	\$2,000,000
Measure J Transportation for Livable Communities (TLC) 2017	\$2,511,000
Measure J TLC future years pre-commitment	\$4,989,000
OBAG2 (Federal Funding)	\$4,800,000
To Be Determined	\$6,500,000
Total	\$20,800,000

Project Delivery Goals

An understanding of project goals is essential to selecting an appropriate project delivery method. Therefore, project goals should be set prior to using the project delivery selection matrix. Typically, the project goals can be defined in three to five items and need to be reviewed here.

Project Specific Goals
Goal #1 Deliver high quality architecturally unique project
Goal #2 Complete project safely
Goal #3 Complete project within budget
Goal #4 Minimize construction impacts
Goal #5

General Project Goals

Schedule

- Minimize project delivery time
- Complete the project on schedule
- Minimize project cost
- Complete the project on budget
- Maximize the project quality
- Meet or exceed project requirements
- Select the best team
- Provide a high quality design and construction constraints
- Provide an aesthetically pleasing project

Functional

- Maximize the life cycle performance of the project
- Maximize capacity and mobility improvements
- Minimize inconvenience to the traveling public during construction
- Maximize safety to the traveling public during construction

Project Delivery Constraints

There are potential aspects of a project that can eliminate the need to evaluate one or more of the possible delivery methods. A list of general constraints can be found below the table and should be referred to after completing this worksheet. The first section below is for general constraints and the second section is for constraints specifically tied to project delivery selection.

General Constraints
Source of Funding: Federal (CMAQ/OBAG) and local (City general funds, CCTA Measure J funds); City is also seeking other, including State, funds
Schedule constraints: The project needs to begin construction by 2021 to meet Federal funding requirements or the City can seek a schedule extension
Federal, state, and local laws: The project will be designed to meet AASHTO and Caltrans Standards
Third party agreements with railroads, ROW, etc: Third party agreements will be developed as project progresses
Project Delivery Specific Constraints
Project delivery constraint #1 Begin construction by 2021 or seek schedule extension to funding requirements
Project delivery constraint #2 Project must stay within approved budget
Project delivery constraint #3 Project must meet public expectation as a gateway feature to the City of San Ramon
Project delivery constraint #4 Project construction needs to be safe and minimize inconveniences and impacts to the public

General Project Constraints

Schedule

- Utilize federal funding by a certain date
- Complete the project on schedule
- Weather and/or environmental impact

Cost

- Project must not exceed a specific amount
- Minimal changes will be accepted
- Some funding may be utilized for specific type of work (bridges, drainage, etc)

Quality

- Must adhere to standards proposed by the Agency
- High quality design and construction constraints
- Adhere to local and federal codes

Functional

- Minimize impacts to the traveling public during construction
- Maintain a safe construction site
- Return area surrounding project to existing conditions

Project Delivery Selection Summary

Determine the factors that should be considered in the project delivery selection, discuss the opportunities and obstacles related to each factor, and document the discussion on the following pages. Then complete the summary below.

PROJECT DELIVERY METHOD OPPORTUNITY/OBSTACLE SUMMARY			
	D-B-B	CM/GC	D-B
Primary Selection Factors			
1. Delivery Schedule	+	+	+
2. Project Complexity & Innovation	-	++	+
3. Level of Design	-	++	+
4. Cost	-	++	+
5. Perform Initial Risk Assessment	-	++	+
Secondary Selection Factors			
6. Staff Experience/Availability (Agency)	NA	PASS	NA
7. Level of Oversight and Control	NA	PASS	NA
8. Competition and Contractor Experience	NA	PASS	NA

Rating Keys	
++	Most appropriate delivery method
+	Appropriate delivery method
-	Least appropriate delivery method
X	Fatal Flaw (discontinue evaluation of this method)
NA	Factor not applicable or not relevant to the selection

Project Delivery Selection Summary Conclusions and Comments

1. The CM/GC method provides the right balance between the level of design control, to construct a project safely, ability to manage cost, and to manage traffic and potential impacts during construction. It is the method that is best aligned with the stated project goals.
2. It promotes innovation and collaboration amongst the entire project team.
3. There is a proper process to verify construction costs.
4. There is a defined process to manage and assign risks for the benefit of the project.

Project Delivery Selection Matrix Primary Factors

1) Delivery Schedule

Delivery schedule is the overall project schedule from scoping through design, construction and opening to the public. Assess time considerations for starting the project or receiving dedicated funding and assess project completion importance.

DESIGN-BID-BUILD - Requires time to perform sequential design and procurement, but if design time is available has the shortest procurement time after the design is complete.		
Opportunities	Obstacles	Rating
Project Schedule well defined	Work to proceed sequentially with no ability to fast track	+
	Projects can be delayed if there are extensive RFIs or unexpected design-related construction issues	
CM/GC - Quickly gets contractor under contract and under construction to meet funding obligations before completing design. Parallel process of development of contract requirements, design, procurements, and construction can accelerate project schedule. However, schedule can be slowed down by coordinating design-related issues between the CM and designer and by the process of reaching a reasonable Guaranteed Maximum Price (GMP).		
Opportunities	Obstacles	Rating
Enables Consultant to tailor design project for efficient and speedy construction	CM/GC procurement is a longer procurement process	+
Allows for advance construction packages for long lead or time sensitive (eg, tree trimming) activities	Schedule may be impacted if no agreement on final construction price is reached and the project needs to be re-bid	
Continuous OPCC minimizes risk of unanticipated construction cost and need for re-bid		
DESIGN-BUILD - Ability to get project under construction before completing design. Parallel process of design and construction can accelerate project delivery schedule; however, procurement time can be lengthy due to the time necessary to develop an adequate RFP, evaluate proposals and provide for a fair, transparent selection process		
Opportunities	Obstacles	Rating
Owner's consultant only needs to develop design sufficiently to prepare "bridging document"	Design-Build procurement process takes a longer period of time	+
Allows some of the design and construction activities to be conducted concurrently and more integrated	The project may need to be re-bid if the price comes in higher than the estimate	
	The Federal fund obligation process may further lengthen the schedule	

2) Project Complexity and Innovation

Project complexity and innovation is the potential applicability of new designs or processes to resolve complex technical issues.

DESIGN-BID-BUILD - Allows Agency to fully resolve complex design issues and qualitatively evaluate designs before procurement of the general contractor. Innovation is provided by Agency/Consultant expertise and through traditional agency directed processes such as VE studies and contractor bid alternatives.		
Opportunities	Obstacles	Rating
	Complexity is high	-
	Consultant design may not be optimized for construction	
	Less incentive and opportunities for innovation	
	Limited ability to optimize between design and cost	
CM/GC - Allows independent selection of designer and contractor based on qualifications and other factors to jointly address complex innovative designs through three party collaboration of Agency, designer and Contractor. Allows for a qualitative (non-price oriented) design but requires agreement on GMP.		
Opportunities	Obstacles	Rating
Allows for contractor input during design	Design input tailored for one specific contractor	++
Process encourages innovation and collaboration without limiting owner's design control		
Allows for design to be better tailored for construction		
Ability to select more qualified contractor		
DESIGN-BUILD - Incorporates design-builder input into design process through best value selection and contractor proposed Alternate Technical Concepts (ATCs) – which are a cost-oriented approach to providing complex and innovative designs. Requires that desired solutions to complex projects be well defined through contract requirements.		
Opportunities	Obstacles	Rating
Allows for contractor input during design	Design may be more focused on cost reduction rather than quality or aesthetics	+
Process encourages innovation and collaboration		
Allows for design to be better tailored for construction		
Ability to select more qualified contractor		
Allows for competitive ATC ideas to be considered		

3) Level of Design

Level of design is the percentage of design completion at the time of the project delivery procurement.

DESIGN-BID-BUILD - 100% design by Agency or contracted design team, with Agency having complete control over the design.		
Opportunities	Obstacles	Rating
The Owner has full control over the design	Design and bid document has to be fully complete before project can go to bid	-
CM/GC - Can utilize a lower level of design prior to procurement of the CM/GC and then joint collaboration of Agency, designer, and CM/GC in the further development of the design. Iterative nature of design process risks extending the project schedule.		
Opportunities	Obstacles	Rating
The Owner has full control over the design		++
The CM/GC will prepare OPCC at design milestones and facilitates preparation of the final price proposal		
Can prepare advance work packages for long-lead and time sensitive work activities		
CM/GC Contractor can assist in field investigation during design leading to more "ownership" of design		
The owner has high level of control over construction staging and traffic management		
DESIGN-BUILD - Design advanced by Agency to the level necessary to precisely define contract requirements and properly allocate risk (typically 30% or less).		
Opportunities	Obstacles	Rating
Can prepare advance work packages for long-lead and time sensitive work activities	The owner has much more limited control over the final design	+
D-B Contractor conducts field investigation during design and have full "ownership" of design	The owner has less control over aesthetic and design details which may be of concern	
	The owner has less control over construction staging and traffic management	

4) Cost

Project cost is the financial process related to meeting budget restrictions, early and precise cost estimation, and control of project costs.

DESIGN-BID-BUILD - Competitive bidding provides a low cost construction for a fully defined scope of work. Costs accuracy limited until design is completed. More likelihood of cost change orders due to contractor having no design responsibility.		
Opportunities	Obstacles	Rating
Project will be competitively bid	The construction cost will not be known until the bids are opened	-
	Potential for contract change order is higher	
CM/GC - Agency/designer/contractor collaboration to reduce risk pricing can provide a low cost project however noncompetitive negotiated GMP introduces price risk. Good flexibility to design to a budget.		
Opportunities	Obstacles	Rating
Cost is better managed because of OPCC and pricing process	Final price is negotiated and not competitively bid	++
Contractor's participation in the design reduces the amount of contract change order		
Open cost model and Independent cost estimate allows for verification of reasonableness of pricing		
Requirement for competitive subcontractor and vendor bids provide for some degree of pricing competition		
Contractor review of design minimizes errors and omission related cost		
Promotes innovation to reduce cost or improve value		
DESIGN-BUILD - Designer-builder collaboration and ATCs can provide a cost-efficient response to project goals. Costs are determined with design-build proposal, early in design process. Allows a variable scope bid to match a fixed budget. Poor risk allocation can result in high contingencies.		
Opportunities	Obstacles	Rating
D-B contractor is responsible for costs related to design errors and omissions	The construction cost will not be known until the bids are opened	+
ATC provides opportunities for cost reduction		

5) Initial Risk Assessment

Risk is an uncertain event or condition that, if it occurs, has an effect on a project's objectives. Risk allocation is the assignment of unknown events or conditions to the party that can best manage them. An initial assessment of project risks is important to ensure the selection of the delivery method that can properly address them. An approach that focuses on a fair allocation of risk will be most successful.

DESIGN-BID-BUILD - Risk allocation for design-bid-build best is understood by the industry, but requires that most design-related risks and third party risks be resolved prior to procurement to avoid costly contractor contingency pricing, change orders, and potential claims.		
Opportunities	Obstacles	Rating
	Owner retains most of the risks	-
	Transferring risks to the contractor through contract documents are generally not very effective	
CM/GC - Provides opportunity for Agency, designer, and contractor to collectively identify and minimize project risks, and allocate risk to appropriate party. Has potential to minimize contractor contingency pricing of risk, but can lose the element of competition in pricing.		
Opportunities	Obstacles	Rating
With CM/GM Contractor's participation during the design, project risks are better identified and defined and potentially mitigated in advance	There is a possibility that there is no agreement on the final construction price	++
Risks can be better transferred to CM/GC Contractor		
Well-defined risks will likely result in reduced cost		
DESIGN-BUILD - Provides opportunity to properly allocate risks to the party best able to manage them, but requires risks allocated to design-builder to be well defined to minimize contractor contingency pricing of risks.		
Opportunities	Obstacles	Rating
D-B Contractor owner risks directly attributable to the design	As design is less developed at bid time, they are not less defined and some of the risks may not have been identified	+

6) Staff Experience and Availability

Agency staff experience and availability as it relates to the project delivery methods in question.

DESIGN-BID-BUILD - Technical and management resources necessary to perform the design and plan development. Resource needs can be more spread out.		
Opportunities	Obstacles	Rating
		<i>NA</i>
CM/GC - Strong, committed Agency project management resources are important for success of the CM/GC process. Resource needs are similar to D-B-B except Agency must coordinate CM's input with the project designer and be prepared for GMP negotiations.		
Opportunities	Obstacles	Rating
Consultant has experience in CM/CG process and opportunities it can provide		<i>PASS</i>
DESIGN-BUILD - Technical and management resources and expertise necessary to develop the RFQ and RFP and administrate the procurement. Concurrent need for both design and construction resources to oversee the implementation.		
Opportunities	Obstacles	Rating
		<i>NA</i>

8) Competition and Contractor Experience

Competition and availability refers to the level of competition, experience and availability in the market place and its capacity for the project.

DESIGN-BID-BUILD - High level of competition, but GC selection is based solely on low price. High level of marketplace experience.		
Opportunities	Obstacles	Rating
		<i>NA</i>
CM/GC - Allows for the selection of the single most qualified contractor, but GMP can limit price competition. Low level of marketplace experience.		
Opportunities	Obstacles	Rating
There are sufficient number of contractors and interest in performing this work		<i>PASS</i>
The procurement process provides for the inclusion of quality-based selection criteria		
CM/GC may provide greater certainty to contractors and make the project more attractive to well qualified contractors.		
DESIGN-BUILD - Allows for a balance of price and non-price factors in the selection process. Medium level of marketplace experience.		
Opportunities	Obstacles	Rating
There are sufficient number of contractors and interest in performing this work		<i>NA</i>
The procurement process provides for the inclusion of quality-based selection criteria		