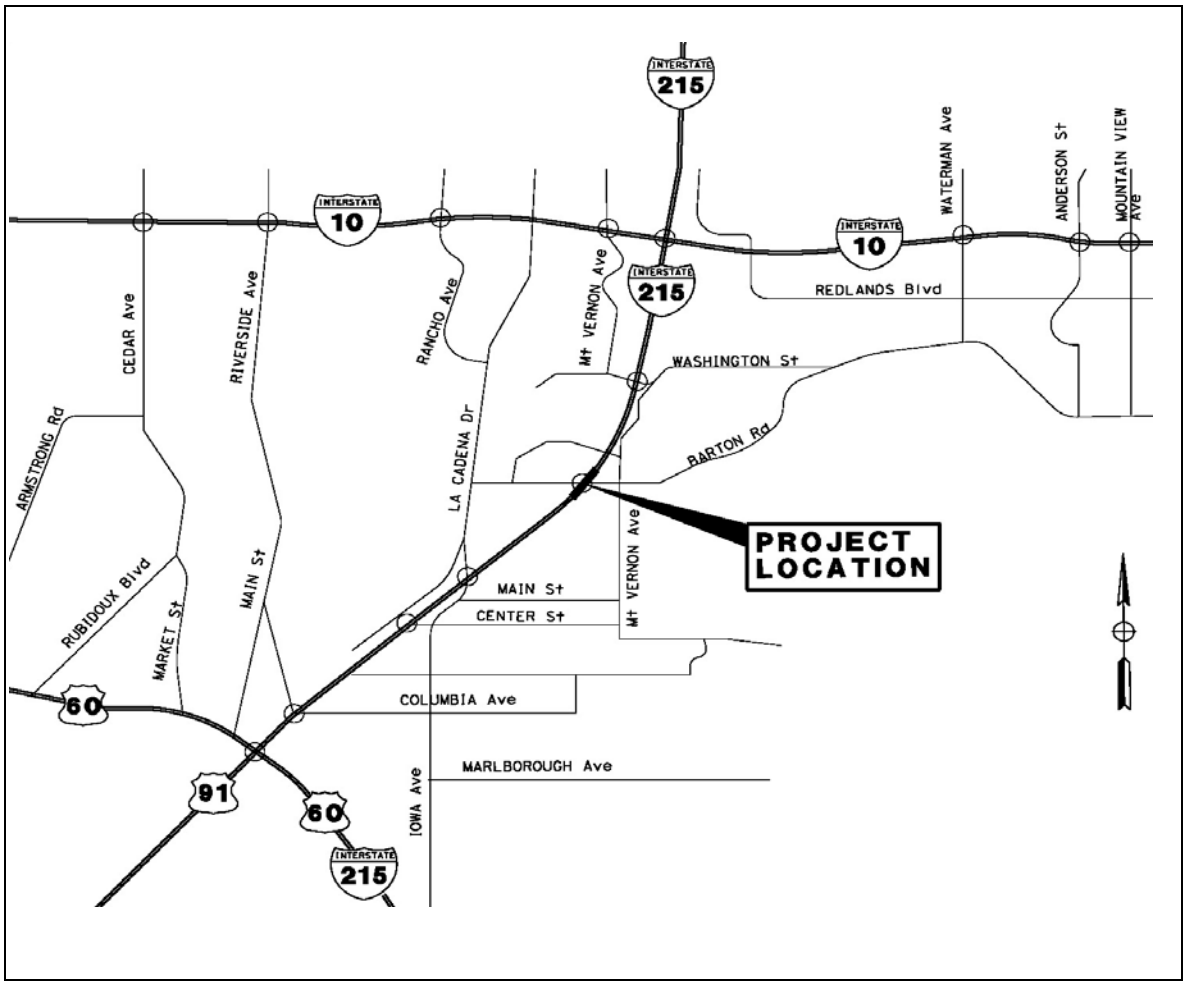
CMGC
NOMINATION FACT SHEET
08-SBD-215-KP 0.93/3.14 (PM 0.58/1.95)
Project EA 0J070

Project Description

The San Bernardino Associated Governments (SANBAG), in cooperation with the Riverside County Transportation Commission (RCTC), the City of Grand Terrace (City), the City of Colton, the California Department of Transportation (Caltrans), and the Federal Highway Administration (FHWA), proposes to reconstruct the existing Interstate 215 (I-215)/Barton Road interchange (Bridge No. 54-0528, PM 1.31)



The purpose of this project is to reconstruct and improve the interchange to attain a desirable Level of Service (LOS) in the future. The I-215/Barton Road interchange is considered the main access to the City of Grand Terrace. The 2006 Average Daily Traffic (ADT) volumes for the existing interchange at the northbound off-ramp and southbound on-ramp are 12,800 and 15,800, respectively. Traffic projections by the year 2035 show an increase of 18% to 15,060 ADT for the northbound off-ramp and the southbound on-ramp and an increase of 58% to 24,960 ADT for southbound off-ramp/northbound on-ramp at Barton Road.

The proposed project is needed to increase capacity, improve operations, and reduce existing and future traffic congestion at the I-215/Barton Road interchange. Based on traffic projections and the existing and future land uses in the vicinity, the facility is forecast to degrade to level of service (LOS) F (breakdown condition) by 2040 without improvements.

The objective of the project is to address the operational deficiencies of traffic congestion, limited capacity, and inefficient traffic operations at the existing I-215/Barton Road interchange.

Project Proposal

The project is currently in the Project Approval and Environmental Document (PA&ED) phase of project development. Some preliminary geometric design work has been completed during PA&ED to support environmental and technical engineering studies needed for the environmental document and project report. Detailed design work will begin following completion of PA&ED during the Plans, Specifications and Estimates (PS&E) phase of the project. Preliminary right of way activities have been undertaken to identify potential property and utility impacts. Right of way acquisitions and utility coordination will occur later in the PS&E phase.

In accordance with the California Environmental Quality Act (CEQA) the Draft Environmental Document prepared is a Draft Initial Study (IS). And, in accordance with the National Environmental Policy Act (NEPA) the Draft Environmental Document prepared is a Draft Environmental Assessment (EA). The Draft IS with Proposed Mitigated Negative Declaration (MND) and the Draft EA with Finding of No Significant Impact (FONSI) have been prepared in accordance with Caltrans' environmental procedures, as well as state and federal environmental regulations.

At the suggestion of FHWA, a modified alternative was recently introduced as a replacement of the locally preferred build alternative to mitigate an access control issue. The Draft NEPA and CEQA documents are currently undergoing revalidation efforts to determine if the modified project alternative footprint requires new or revised environmental studies. Revalidation efforts are not expected to significantly impact the project schedule and completion of the Project Approval and Environmental Document is anticipated by the end of calendar year 2013.

Schedule

This project is scheduled to be completed after the I-215 carpool lane gap closure project between San Bernardino and Riverside is completed. The improvements at the adjacent Mt. Vernon Avenue/Washington Street interchange in Colton will follow the completion of the Barton Road interchange improvements. The following schedule for the Barton Road interchange assumes no unforeseen delays and is contingent upon the project being fully funded based on the selected build alternative:

- The Project Approval/Environmental Document phase is expected to be completed by late 2013.

- Final design and right of way acquisition are estimated to be completed by late 2015.
- Construction is expected to start early 2016 and be completed by mid-2018.

Cost/Funding

Costs for the Project Approval/Environmental Document phase of work are being shared by SANBAG and RCTC. SANBAG is funding approximately $3.09 million of this project phase, and RCTC is funding an estimated $1.03 million.

The full project cost through construction is estimated to be between $63.3 million and $100 million, depending on which build alternative is selected. This estimate is subject to change, based on future cost escalations.

The Project is programmed in the Southern California Association of Governments adopted 2013 Federal Transportation Improvement Program. Total programmed funds for the project are $78.8 million. If necessary, additional future funding for the interchange project will be provided in part by Measure I, the half-cent sales tax for transportation improvements in San Bernardino County. SANBAG also may pursue additional state and federal funding sources.

Permits/Agreements

SANBAG and Caltrans previously entered into cooperative agreements for the PA&ED (Agreement No. 08-1341) and the PS&E/Right of Way (Agreement No. 08-1537) phases of project development. A separate agreement will be required for construction.

Anticipated regulatory permits include:

- Order No. 2009-0009-DWQ, National Pollutant Discharge Elimination System (NPDES) No. CAS000002, NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities
- Order No. 99-06-DWQ, NPDES No. CAS000003, Statewide Storm Water Permit and Waste Discharge Requirements for Caltrans
- State Right-of-Way Encroachment Permit
- Clean Water Act (CWA) Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB)
- CWA Section 404 Nationwide Permit from the United States Army Corps of Engineers (ACOE)
- California Department of Fish and Game (CDFG) Lake or Streambed Alteration Agreement

The project will also require an agreement with the CHP Field Office for Construction Zone Enhanced Enforcement Program (COZEEP).

Right of Way and Utilities

This project requires acquisition of additional right of way. Depending on the selected build alternative, the project is expected to acquire between 2 to 8 residences and 22 to 35

commercial properties. Right of way engineering and acquisitions will begin after completion of the PA&ED phase of the project at the end of 2013.

Utility coordination work and design of any necessary utility relocation will begin during the PS&E phase. Preliminary utility verification research and mapping were completed during PA&ED. The following utilities are expected to be relocated or protected in place during construction.

Utility	Owner
Sewer	City of Grand Terrace
Water Line	Riverside Highland Water, Eastern Valley Municipal Water District
Gas Line	Southern California Gas
Electrical-underground	Southern California Edison (SCE)
Utility Poles	SCE
Electrical-overhead	SCE
Telecom	AT&T, Time Warner
CATV	AT&T, Time Warner, Charter Communication
Riverside Canal Aqueduct	City of Riverside

Public/Political Support of Project

The project is supported by the general public and has broad political support among the SANBAG and RCTC member agencies.

Why is this project a good CMGC candidate?

Because this is an interchange reconstruction project, it has a wide spectrum of issues that CMGC can provide beneficial assistance. Limited work spaces within the interchange footprint require development of optimal construction staging strategies. The CMGC's suggestions on work zone traffic control plans and construction material staging areas are expected to help optimize staging strategies.

It will be important to develop accurate working day estimates to minimize the overall construction duration and deliver the finished project to the travelling public as efficiently as possible. Also, it is essential that lane and ramp closure schedules/durations and traffic control measures are reviewed to ensure that the traveling public is not unnecessarily impacted construction.

CMGC review of traffic control items can lead to more accurate pricing and cost estimating of items that are traditionally estimated and bid as lump sum items. Early identification and resolution of R/W utility relocation constraints will reduce R/W support & capital costs and improve schedule performance. Additionally, CMGC involvement is expected to provide reasonable and predictable forecasted support cost rates essential for Caltrans work plan and programming purposes.
The Construction Manager's tasks should be evaluated by the project team with input from the appropriate functional units. Select the tasks for which the Construction Manager's assistance will be needed and discuss its benefits to delivering the project. (Note: This initial selection will be used to assist in understanding how the district intends to the construction manager and can be modified prior to release of the RFQ).

DESIGN RELATED

- ☒ Validate Department/Consultant design
- ☒ Assist/input to Department/Consultant design
- ☒ Design reviews
- ☒ Design charrettes
- ☒ Constructability reviews
- ☐ Operability reviews
- ☐ Regulatory reviews
- ☐ Market surveys for design decisions
- ☒ Verify/take-off quantities
- ☒ Assistance shaping scope of work
- ☒ Feasibility studies
- ☐ Encourage innovation

COST RELATED

- ☒ Validate agency/consultant estimates
- ☐ Prepare project estimates
- ☒ Cost engineering reviews
- ☒ Early award of critical bid packages
- ☐ Life cycle cost analysis
- ☐ Value analysis/engineering
- ☒ Material cost forecasting
- ☐ Cost risk analysis
- ☐ Cash flow projections/Cost control
- ☐ Shape the project scope to meet the budget

PRECONSTRUCTION WORK RELATED

- ☒ Utility Relocation
- ☒ Potholing
- ☐ Preliminary soil and geotech studies
- ☒ Right of Way Demolition
- ☐ Preliminary Surveying

SCHEDULE RELATED

- ☒ Validate agency/consultant schedules
- ☐ Prepare and manage project schedules
- ☒ Develop sequence of design work
- ☒ Construction phasing
- ☒ Schedule risk analysis/control

ADMINISTRATION RELATED

- ☐ Prepare Document Control
- ☐ Coordinate contract documents
- ☒ Coordinate with 3rd party stakeholders
- ☐ Subcontractor bid packaging
- ☐ Attend public meetings
- ☒ Bidability reviews
- ☒ Subcontractor bid packaging
- ☐ Prequalifying Subcontractors
- ☐ Assist in right-of-way acquisition
- ☐ Assist in permitting actions
- ☒ Study labor availability/conditions
- ☐ Prepare sustainability certification application
- ☒ Follow environmental commitments
- ☐ Follow terms of Federal Grant
- ☐ Coordinate site visits for subcontractors
- ☒ Teamwork/Partnering meetings/sessions
- ☒ Develop Quality and Safety plans

Glossary of Preconstruction Services Terms

Design-Related Preconstruction Services

- **Validate agency/consultant design** Construction Manager evaluates the design as it is originally intended and compares it to the scope of work with both the required budget and schedule to determine if the scope can be executed within those constraints. A validated design is one that can be constructed within the budget and schedule constraints of the project.
- **Assist/input to agency/consultant design** Construction Manager will offer ideas/cost information to the designer to be evaluated during the design phase. Ultimately, the designer is still responsible for the design.
- **Design reviews** done to identify errors, omissions, ambiguities, and with an eye to improving the constructability and economy of the design submittal.
- **Design charrettes** Construction Manag er would participate in structured brain-storming sessions with the designer and owner to generate ideas to solve design problems associated with the project.
- **Constructability reviews** review of the capability of the industry to determine if the required level of tools, methods, techniques, and technology are available to permit a competent and qualified construction contractor to build the project feature in question to the level of quality required by the contract.
- **Operability reviews** bringing in the agency's operations and maintenance personnel and providing them with an opportunity to make suggestions that will improve the operations and maintenance of the completed projects.
- **Regulatory reviews** a check to verify that the design complies with current codes and will not have difficulty obtaining the necessary permits.
- **Market surveys for design decisions** furnish designers with alternative materials or equipment along with current pricing data and availability to assist them in making informed design decisions early in the process to reduce the need to change the design late in the process resulting from budget or schedule considerations.
- **Verify/take-off quantities** Construction Manager verifies the quantities generated by the designer for the engineer's estimate.
- **Assistance shaping scope of work** Construction Manager generates priced alternatives from the designer and owner to ensure that the scope of work collates to the constraints dictated by the budget and/or schedule.
- **Feasibility studies** Construction Manager investigates the feasibility of possible solutions to resolve design issue on the project.

Cost-Related Preconstruction Services

- **Validate agency/consultant estimates** Construction Manager evaluates the estimate as it is originally intended and determines if the scope can be executed within the constraints of the budget.
- **Prepare project estimates** Construction Manager provides real-time cost information on the project at different points in the design process to ensure that the project is staying within budget.
- **Cost engineering reviews** review that includes not only the aspects of pricing but also focuses on the aspect that "time equals money" in construction projects.

- **Early award of critical bid packages** Construction Manager determines which design packages should be completed first to ensure that pricing can be locked in on the packages.
- **Life-cycle cost analysis** Construction Manager provides input to design decision that impact the performance of the project over its lifespan.
- **Value analysis** process that takes place during preconstruction where the CMGC contractor identifies aspects of the design that either do not add value or whose value may be enhanced by changing them in some form or fashion. The change does not necessarily reduce the cost; it may actually decrease the life-cycle costs.
- **Value Engineering** systematic review by a qualified agency and/or contractor personnel of a project, product, or process so as to improve performance, quality, safety, and life-cycle costs.
- **Material cost forecasting** Construction Manager utilizes its contacts within the industry to develop estimates of construction material escalation to assist the owner and designer make decisions regarding material selection and early construction packages.
- **Cost risk analysis** furnishing the agency with information regarding those cost items that have the greatest probability of being exceeded.
- **Cash flow projections/Cost control** Construction Manager conducts earned value analysis to provide the owner with information on how project financing must be made available to avoid delaying project progress. This also may include an estimate of construction carrying costs to aid the owner in determining projected cash flow decisions.

Schedule-Related Preconstruction Services

- **Validate agency/consultant schedules** Construction Manager evaluates if the current scope of work can be executed within the constraints of the schedule.
- **Prepare project schedules** Construction Manager prepares schedules throughout the design phase to ensure that dates will be met, and notify the owner when issues arise.
- **Develop sequence of design work** Construction Manager sequences the design work to mirror the construction work, so that early work packages can be developed.
- **Construction phasing** Construction Manager develops a construction phasing plan to facilitate construction progress and ensure maintenance of traffic.
- **Schedule risk analysis/control** Construction Manager evaluates the risks inherent to design decisions with regard to the schedule and offers alternative materials, means and/or methods to mitigate those risks.

Administrative-Related Preconstruction Services

- **Coordinate contract documents** Construction Manager evaluates each component to the construction contract against all other components and identifies conflicts than can be resolved before award of the construction phase contract.
- **Coordinate with third-party stakeholders** Construction Manager communicates with third parties involved in the project including but not limited to utilities, railroads, and the general public.
- **Public information-public relations** Construction Manager implements a program to identify public relations issues and solve them to ensure the project is not delayed by public protest.
- **Attend public meetings** Construction Manager can organize and attend public meetings to answer questions from the public about the construction of the project.

- **Biddability reviews** – Construction Manager reviews the design documents to ensure that subcontractor work packages can be bid out and receive competitive pricing. This action reduces the risk to the subcontractors because they are given the specific design product they need for their bids; not just told to find their work inside the full set of construction documents.
- **Subcontractor bid packaging** – Construction Manager coordinates the design work packaging to directly correlate with subcontractor work packages so that early packages can be easily bid out and awarded.
- **Prequalifying subcontractors** – Construction Manager develops a list of qualified subcontractors that are allowed to bid on packages as they are advertised.
- **Assist in right-of-way acquisition** – Construction Manager assists the designer in identifying options for right-of-away acquisitions by providing means and methods input. The primary purpose is to minimize the amount of right-of-way actions that must be undertaken.
- **Assist in permitting actions** – Construction Manager is empowered to meet with resource agencies and develop permit applications with assistance from the designer.
- **Study labor availability/conditions** – Construction Manager furnishes advice during design with regard to the availability of specialty trade subcontractors and the impact of that availability on project budget and schedule constraints.
- **Prepare sustainability certification application** – When certification for sustainability is desired, the Construction Manager is empowered to prepare the necessary paperwork to submit for certification