State Route 58 Feasibility Study

New State Route 58/State Route 223 Interchange

Kern Council of Governments

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State Route 58/State Route 223 Interchange Feasibility Study

1. Introduction

The Kern Council of Governments (Kern COG), in cooperation with Caltrans and Kern County, has initiated this study to evaluate future interchange needs at the State Route 58 (SR 58) and State Route 223 (SR 223) intersection. The current at-grade "T" intersection, along with this section of SR 58 and the nearby SR 58/Bealville Road intersection, operates with safety deficiencies and a lack of compliance with the route concept for this facility. The purpose of this study is to determine the feasibility as well as provide a range of costs and timeframe for potential projects to construct an interchange to replace the SR 58/SR 223 intersection. This analysis will also include removing the existing at-grade intersection at SR 58 and Bealville Road via either grade separation or a realignment of Bealville Road (See *Attachment A*). To this end, a Project Development Team (PDT) was formed to facilitate the study and to gather input from stakeholders. If desired, Kern COG could use this document as a basis for proceeding with future studies. The next logical step in the project development process would be the preparation of a Project Study Report–Project Development Support (PSR-PDS) to identify scope, schedule, and potential funding sources for the Project Approval and Environmental Document (PA&ED) phase.

Kern COG is proactively planning for future infrastructure that will be needed for compliance with the SR 58 and SR 223 Transportation Concept Reports (TCR) as well as addressing safety concerns present within the study area.

The Feasibility Study includes analysis of four (4) "Build" Alternatives. A "No-Build" Alternative would also be evaluated in future studies. Total project cost estimates for each of the Build Alternatives range from $27.2 million to $50.1 million. Funding for the project has not yet been identified.

2. Background

SR 58, through the project area, is a four-lane divided rural expressway providing east-west connectivity between Bakersfield and Barstow. It is a high-volume interregional route and serves as a major route in the most productive agricultural region in the world. It provides significant goods/freight movement to and from the Central Valley and links to other important goods movement routes nationwide such as SR 14, Interstate 15, Interstate 40, and US 395. Heavily used by interstate travelers, commuters, recreational travelers, and goods movement, SR 58 has an Annual Average Daily Traffic (AADT) of 19,000 with trucks constituting up to 38 percent.

According to the 2004 Transportation Concept Report, SR 58 within the project area is designated as a High Emphasis Focus Route on the Interregional Road System (IRRS). SR 58 is also recognized as a Transportation Gateway of Major Statewide Significance and is identified as a "Priority Global Gateway" for goods movement in the Global Gateways Development Program. Under the Federal-Aid Surface Transportation Program, this section of SR 58 is part

of the National Highway System (NHS) as a STRAHNET route and is on the National Network (NN) for STAA trucks (large trucks). Finally, SR 58 is classified as a Corridor of Economic Significance by the Transportation Concept Report.

Project Area Description

Currently, SR 223 terminates at SR 58 at a "T" intersection approximately 23 miles east of Bakersfield and 16 miles west of Tehachapi. Vehicles, including up to 38% trucks, approach the intersection along State Route 58 from steep downgrades and are not required to stop (See *Attachment B*). Such vehicles destined for SR 223 or Bealville Road must slow down or stop and cross SR 58 traffic in the opposite direction. Vehicles approaching from State Route 223 and Bealville Road are stop-controlled and must either merge and/or cross several lanes of SR 58 to complete their maneuver. Free right-turns are provided from eastbound SR 58 to southbound SR 223 and from northbound SR 223 to eastbound SR 58. The intersection area also experiences poor visibility due to fog that exacerbates safety concerns.

Bena Road parallels SR 58 to the south and provides access to properties in the area. It intersects SR 223 approximately 1,000 feet south of SR 58. Bena Road intersects SR 58 approximately 1.5 miles east of the SR 58/SR 223 intersection. North of SR 58, Bena Road is designated as Bealville Road and provides access to rural communities north of SR 58.

3. Need and Purpose

The purpose of this interchange feasibility study is to identify improvements for the State Route 58/State Route 223 intersection, area which will improve safety, traffic operations, system linkage, roadway deficiencies, and compatibility with local land use.

The specific needs to be addressed by the project include the following:

- Safety Deficiencies
  Vehicles approach both project intersections from steep downgrades on freeway segments. The accident rates for the intersections and segment of SR 58 meet or exceed the statewide average for both fatalities and injuries (See *Table 1*).

Table 1

Facility	Accident Rate	Statewide Average
SR 58 (PM 74.9 - 77.1)	**0.80**	**0.57**
SR 58/SR 223 Intersection	**0.20**	**0.20**
SR 58/Bealville Rd Intersection	**0.36**	**0.30**

- Accommodate Future Transportation Demand
  According to the 2004 *Transportation Concept Report*, both the 2015 and 2030 Levels of Service of this section of SR 58 are projected to fall to an "F" which is below the desired "C" specified as the 2030 TCR concept Level of Service.
- Complete the Bakersfield to Mojave Freeway System Link
  This section of SR 58 is designated as a four-lane expressway and is the only remaining section between Bakersfield and Mojave that has not yet been upgraded to freeway standards.

- Consistency with Transportation Concept Report and Local Plans
  The 2004 *Transportation Concept Report* specifies that this section of SR 58 is to be upgraded to freeway standards per the Kern County General Plan.
- Accommodate Local Land Use
  SR 58 serves as a major access facility for the Bakersfield National Cemetery located on SR 223 approximately one mile south of SR 58. The cemetery generates unique traffic patterns during special events which causes long side street queues and delays due to funeral processions. These vehicle queues cause operational issues for vehicles within the existing at-grade highway intersections.

4. Alternatives Development

The following were developed as General Considerations for the development of alternatives:

Development Methodology

Interchange types analyzed were selected based on feedback from PDT members and the public. Design was based on Caltrans' *Highway Design Manual* (Sixth Edition) standards and each alternative was developed to require no design exceptions.

SR 58 Mainline

Per the 2004 *Transportation Concept Report*, a six-lane facility is ultimately planned for SR 58 throughout the project area. All alternatives were developed to be consistent with this ultimate facility. However, cost estimates do not include improvements to the mainline.

Interchange Spacing

The spacing between both project intersections is approximately 1.5-miles, which does not meet the minimum 2-mile Caltrans rural interchange spacing requirement for State Highways. As a result, only the SR 58/SR 223 intersection was considered for a full access interchange, while the SR 58/Bealville Road intersection is proposed to be removed or replaced with a grade separation structure with no direct access to SR 58.

Intersection Spacing

Constructing an interchange at SR 58/SR 223 requires relocating the SR 223/Bena Road intersection further to the south. Per Caltrans recommendations, the spacing along SR 223 between Bena Road and the proposed ramp on the south side shall be 1000 feet for diamond interchange alternatives. For other alternatives involving higher speed directional movements from SR 58 to SR 223, this spacing shall be equal to the sum of the decision sight distance and deceleration lane length.

Construction Staging

Since it will be necessary to maintain intersection operations during construction of the proposed overcrossings, bridges are positioned away from the existing intersection in all alternatives.

Frontage Roads

New frontage roads were designed with 12-foot lanes and 8-foot shoulders even when replacing existing roads to aid in the expected increase in traffic. Since steep hills are present southeast of

the SR 58/SR 223 intersection and are cost-prohibitive to excavate, new frontage roads have been located to minimize earthwork costs.

5. Traffic Analysis

For each alternative, a traffic analysis assessment was developed and based on existing and future travel demand forecasts in the project area. The analysis is intended to assist in defining the number of lanes needed for the ultimate project. It is important to note that this assessment is not intended to serve as the Traffic Report for the PSR-PDS, the Project Report (PR), or for the Environmental Documentation (ED). Additionally, more refined forecasting and operations assessment will occur at that time and will incorporate additional coordination with Kern COG, County of Kern Roads Department, and Caltrans representatives as appropriate.

Several improvement options have been identified for this area as part of this study. Although most of the alternatives reflect different interchange configurations, they contain the following key elements related to traffic circulation in the area:

- Eliminating the at-grade Bena Road/Bealville Road/SR-58 intersection
- Providing a grade separation of the SR-58/SR-223 intersection to provide a full access interchange
- Connecting Bealville Road to the new interchange either through a new parallel roadway north of SR-58, or providing a grade separation over SR-58 (without a connection to the freeway) and connecting it to Bena Road

Travel Demand Forecasts

To forecast future year (2035) traffic volumes in the study area, the KernCOG Travel Demand Forecasting Model was utilized. This model contains projected land use growth and planned (and funded) roadway improvements in Kern County. To determine the projected traffic forecasts in the study area, the model roadway network was updated to include the potential interchange at SR 58 and SR 223. The compiled future-year model yielded the travel demand forecasts summarized in *Table 2*.

Table 2

FUTURE YEAR (2035) TRAVEL DEMAND FORECASTS		
	Traffic Forecasts	
SR 58 & SR 223 Interchange	**Daily**	**Peak Hour**
SR 58 Mainline	34,500 – 38,500	1,700 - 3,000
SR 223-Overcrossing	1,900	240
Eastbound Off-Ramp	< 100	< 10
Eastbound On-Ramp	2,000	320
Westbound Off-Ramp	1,910	230
Westbound On-Ramp	< 100	< 10

Note:
Traffic forecasts based on KernCOG Travel Demand Forecasting Model.
Source: Fehr & Peers, 2011.

As shown in *Table 2*, the interchange would serve approximately 2,000 daily and 300 peak hour vehicles traveling to/from SR 223 towards the east on SR 58. Traffic forecasts for vehicles traveling to/from the west are anticipated to be minimal (fewer than 100 daily vehicles) based on output from the Kern COG travel demand model.

To verify the projected traffic volume growth anticipated by the Kern COG model, historical Caltrans traffic counts from 1999 through 2009 were reviewed. Comparing the 1999 counts to the 2009 counts, there is limited traffic growth on SR 58 or on SR 223 in the study area (less than 3% total growth). However, some of that limited growth is due to the economic recession that occurred in 2008 and is on-going. Therefore, traffic data on SR 58 and SR 223 from 2006 was also received, prior to the economic recession. Review of that data indicated a 23% increase on SR 58 and a doubling of traffic on SR 223.

Accounting for fluctuations in the marketplace due to economic forces, and our review of the traffic volumes during the peaks of these economic forces, we believe the Kern COG forecast volumes are reasonable and are appropriate for use in this feasibility study.

Interchange Sizing

The future year travel demand forecasts for the potential SR 58 and SR 223 interchange were used to determine the appropriate sizing of the facility. For the purpose of preliminary planning and conceptual design, the following guidelines specified in the Caltrans' *Highway Design Manual* were used to determine the interchange sizing:

- Fewer than 900 peak hour vehicles = Single-lane on- and off-ramps
- Between 900 and 1,500 peak hour vehicles = Single-lane off-ramp and single lane plus high occupancy vehicle (HOV) bypass lane on-ramp
- Greater than 1,500 peak hour vehicles = Two-lane off-ramp and two-lane plus HOV bypass lane on-ramp
- More than 12,000 ADT on the overcrossing would suggest widening the structure to four lanes

Based on the above guidelines, the following interchange sizing is recommended:

- One-lane on-ramps in both the eastbound and westbound directions to SR 58
- One-lane off-ramps in both the eastbound and westbound directions from SR 58
- Two-lane SR 223 overcrossing (one lane in each direction) independent of whether the frontage road parallel connection is north or south of SR 58

It is important to note that from a traffic demand perspective, no proposed ramps will warrant more than one lane per the above. However, since some single-lane ramps are over 1000' long, they will be required to be two lanes per the *Highway Design Manual*, *Chapter 504.3 (5).*

6. Environmental Analysis

Environmental resources were evaluated for each alternative for the following environmental criteria:

- Air Quality;

- Biological Impacts (Jurisdictional Wetlands, Oak Trees, Listed Endangered Species);
- Community Impacts;
- Cultural Resources;
- Farmland;
- Geology;
- Hazardous Materials;
- Land Use;
- Noise;
- Visual; and
- Water Quality.

These criteria were selected from the Caltrans SER and CEQA/NEPA criteria and have the potential to be affected by the proposed project alternatives.

The environmental analysis methodology consisted of conducting various records searches (including CNDDB, Geotracker, etc.), a review of any existing known environmental documentation for the area, and the utilization of aerial photography/GIS analysis. Thresholds of significance will be employed during the PA&ED which will follow the CEQA/NEPA and Caltrans SER guidance.

Environmental resources were evaluated by aerial photography interpretation, biological records searches, cultural resources records search, hazardous materials records search, background geology/soils research for the area, and the PDT's understanding of the type of work proposed for each alternative and its likely potential for environmental impacts.

It is important to note that this project does not impact the Bakersfield National Cemetery and therefore, no environmental impacts have been evaluated thereto. Analysis of the potential for environmental impacts was evaluated by environmental effect and categorized as low, medium, and high in Table 3 as follows.

Table 3

Environmental Effect	Low	Medium	High
Air Quality	Construction/dust impacts - no sensitive receptors	Construction/dust impacts - with sensitive receptors	Long-term AQ impacts/potentially exceeds standards
Biology – Jurisdictional Waters	Not present	Present but low chance to impact or minimal impacts; potential jurisdictional drainage ditches	Present and high chance to impact or moderate to high impacts
Biology – Listed Wildlife Species	Not present	Present but low chance to impact or minimal impacts (potential loss of habitat)	Present and high chance to impact or moderate to high impacts (direct impact on listed species)
Biology – Oak Trees	Not present	Present but low chance to impact, or minimal impacts to isolated trees	Present and high chance to impact or moderate to high impacts to numerous trees or woodlands
Community Impacts	Few if any changes in the character of the community	Changes some characteristics of the community such as access or circulation (cul-de-sac through roads); isolated property takes	Divides an existing community by new roadway or infrastructure; significant property takes
Cultural Resources	Low potential to affect historic or arch. resources	Moderate potential to affect historic/archaeological	High potential to affect historic (direct/indirect impact to buildings/structures)
Farmland	Little to no farmland resources present	Moderate effects to prime or otherwise designated farmland (sliver takes of farmland)	Significant effects to prime or otherwise designated farmland; reduction in productivity of farmland
Geology	Low potential for geo hazards	Moderate potential for geo hazards; moderate landform modification	High potential for geo hazards; major hillside grading or modifications
Hazardous Materials	Small potential for hazardous materials	Nearby occurrences of "medium risk" hazardous materials (new roadway extends through industrial lands or farmlands)	Nearby occurrences of "high risk" hazardous materials
Land Use	Little to no change in existing land uses	Moderate changes in existing land uses (new roadways extending through existing neighborhoods)	Major changes in existing land uses (eliminate underlying land use)
Noise	No sensitive receptors nearby	Potential for moderate noise increases and nearby sensitive receptors; new roadway/infrastructure nearby that could increase noise	Potential for significant noise increases and nearby sensitive receptors; new roadway/infrastructure extends through existing residential neighborhood
Visual	Minor changes in visual character	Noticeable changes in visual character consistent with existing viewshed; new roadways, infrastructure, overcrossing, or interchange	Noticeable changes or impacts to an area characterized by high visual quality/designated resources
Water Quality	Little to no increase in runoff	Moderate increase in impervious surfaces, runoff, and WQ contaminants (road/infrastructure extends through industrial lands)	Large increases in impervious surfaces, runoff, and WQ contaminants

7. Public Outreach

The PDT developed three alternatives and presented the alternatives at a public meeting held on May 4, 2011 in Tehachapi, CA. Approximately 15 people attended the public meeting where a presentation was made to the attendees and comments and questions were addressed and compiled. As a result of the public feedback, Alternative #4 was added to the Feasibility Study and analyzed. Future public outreach efforts are expected to be conducted at the next phase of this project.

8. Right-of-Way

Significant right-of-way would be required for this project with needs varying by alternative from ten (10) to thirty (30) acres totaling $2.1 million and $6.5 million, respectively. Most of this right-of-way acquisition would be from the adjacent Tejon Ranch-owned parcels.

9. Alternatives Considered

A total of four (4) alternatives were developed and analyzed in this study as discussed below.

Alternative #1 - Tight Diamond #1 (See Attachment C)

Table 4a

Cost:	$27.2 million
Description:	Construct a Caltrans Type L-1 or "Tight Diamond" interchange at SR 58 and SR 223 junction including a two-lane overcrossing structure. Realign Bena Road to the south to provide a 1000' intersection spacing. Reconstruct Bena Road east of SR 223 to provide improved access to Bealville Road which will be grade separated over SR 58 via a new two-lane overcrossing structure. Access from Bealville Road to SR 58 will be provided via Bena Road through the SR 58/ SR 223 interchange ramps.

Advantages	Disadvantages
1) Compact interchange footprint minimizes cost 2) Configuration consistent with nearby interchanges eastward along SR 58 3) Anticipated to adequately serve low traffic volumes despite close intersection spacing of ramps	1) Close intersection spacing between ramps may cause operational deficiencies and the back-to-back left turn lanes could be a potential storage issue. 2) Configuration not recommended by Caltrans

Alternative #2 - Trumpet (See Attachment C)

Table 4b

Cost:	$37.3 million
Description:	Construct a Caltrans Type F-6 or "Trumpet" interchange at SR 58 and SR 223 junction including a four-lane overcrossing structure. Realign Bena Road to the south to provide intersection spacing to accommodate decision sight distance and deceleration lane length. Reconstruct Bena Road east of SR 223 to provide improved access to Bealville Road which will be grade separated over SR 58 via a new two-lane overcrossing structure. Access from Bealville Road to SR 58 will be provided via Bena Road through the SR 58/ SR 223 interchange ramps.

Advantages	Disadvantages
1) Preferred interchange type by Caltrans 2) Provides free movements for all directions 3) Provides high speed connection for westbound SR 58 to SR 223	1) Larger Footprint than Alternative #1 2) Greater Cost than Alternative #1 3) Projected Traffic volumes do not support the need for high speed connector

Alternative #3 - Direct Connectors (See Attachment C)

Table 4c

Cost:	$50.1 million
Description:	Construct a Caltrans Type F-5 or "Direct Connector" interchange at SR 58 and SR 223 junction including a two-lane overcrossing and a two-lane direct connector structure. Realign Bena Road to the south to provide intersection spacing to accommodate decision sight distance and deceleration lane length. Reconstruct Bena Road east of SR 223 to provide improved access to Bealville Road which will be grade separated over SR 58 via a new two-lane overcrossing structure. Access from Bealville Road to SR 58 will be provided via Bena Road through the SR 58/SR 223 interchange ramps.

Advantages	Disadvantages
1) Provides high speed free movements in all directions 2) Smaller footprint than Alternative #2	1) High Cost 2) Projected Traffic volumes do not support the need for high speed connectors

Alternative #4 - Tight Diamond #2 (See Attachment C)

Table 4d

Cost:	$29.5 million
Description:	Construct a Caltrans Type L-1 or "Tight Diamond" interchange at SR 58 and SR 223 junction including a two-lane overcrossing structure. Realign Bena Road to the south to provide a 1000' intersection spacing. Construct frontage road on north side of SR 58 which provides access to Bealville Road. Remove existing SR 58/Bealville intersection. Bena Road, east of SR 223, will be truncated near Bealville Road, but still serve as access road to adjacent residences.

Advantages	Disadvantages
1) Eliminates need for overcrossing structure at Bealville 2) Consolidates all movements into a single interchange removing the perception of circuity	1) Largest Footprint of all the alternatives 2) Greatest Environmental impacts 3) Greater Cost than Alternative #1

It is important to note that the following additional project issues were identified and shall be further analyzed during the future preparation of the PSR-PDS:

1) Spacing between the ramp terminus and Bena Road via Traffic Study
2) Need for a truck climbing lane(s) on State Route 58 throughout the project area

Environmental impacts for each alternative are shown below in Table 5.

Table 5

Potential Issue	SR 58/SR 223 Interchange Alternative #				Bealville Road	Bealville Road
	1	2	3	4	Alternatives 1-3	Alternative 4
Air Quality	Low	Low	Low	Low	Low	Low
Jurisdictional Waters	Med	Med	Med	Med	Low	Med
Listed Wildlife Species	Med	Med	Med	Med	Med	Med
Oak Trees	Med	Med	Med	Med	Low	Med
Community Impacts	Low	Low	Low	Low	Med	Low
Cultural	Low	Low	Low	Low	Low	Low
Land Use	Low	Low	Low	Low	Low	Low
Farmland	Low	Low	Low	Low	Low	Low
Geology	Low	Low	Low	Low	Low	Low
Water Quality	Low	Low	Low	Low	Low	Low
Noise	Low	Low	Low	Low	Low	Low
Visual	Low	Low	Low	Low	Med	Med
HazMat	Low	Low	Low	Low	Low	Low

10. Scheduling

The following schedule anticipates that funding would be available at each stage of project development and reflects the earliest likely delivery of the project. It is feasible that KernCOG could choose to accelerate the project by using all local funding and by accepting risk to perform design activities in conjunction with environmental studies.

Table 6

Milestone	*Tentative Date*
Begin Project Study Report	2012
Complete Project Study Report	2013
Begin Environmental Studies	2013
PA&ED	2015
Right-of-Way (R/W) Certification	2017
Plans, Specifications & Estimate (PS&E)	2017
Begin Construction	2017
Construction Completed	2019

11. List of Attachments

A. Location Map

B. Vehicle Movements Exhibit

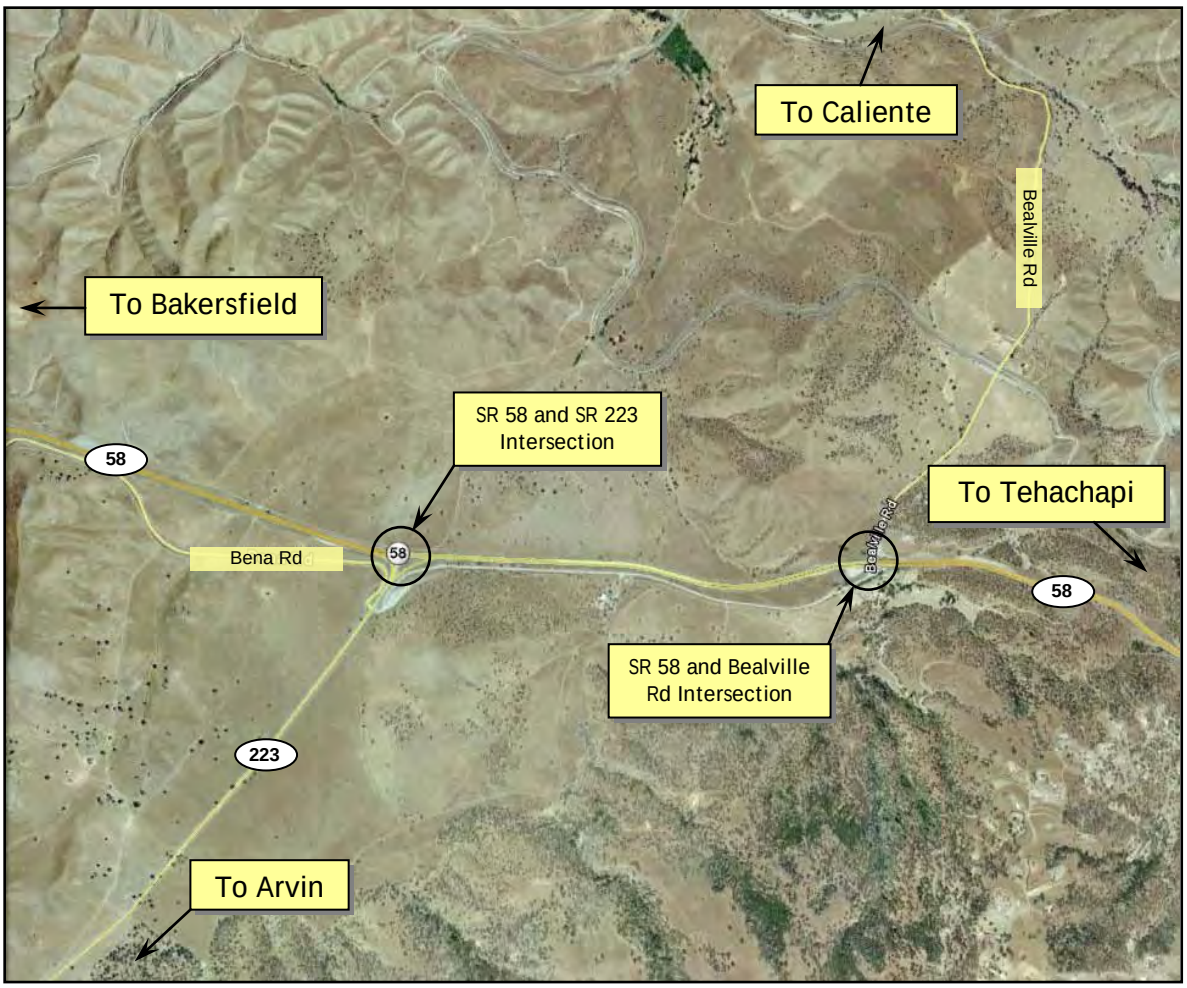
C. Conceptual Geometrics Exhibit#1 - Tight Diamond #1
- Alternative #1 - Tight Diamond #1
- Alternative #2 - Trumpet
- Alternative #3 - Direct Connectors
- Alternative #4 - Tight Diamond #2
- SR 58/Bealville Grade Separation
- Bealville North Frontage Road

D. Preliminary Cost Estimate
- Alternative #1 - Tight Diamond #1
- Alternative #2 - Trumpet
- Alternative #3 - Direct Connectors
- Alternative #4 - Tight Diamond #2

E. Advanced Planning Studies

F. Public Meeting Information

G. Project Development Team Roster

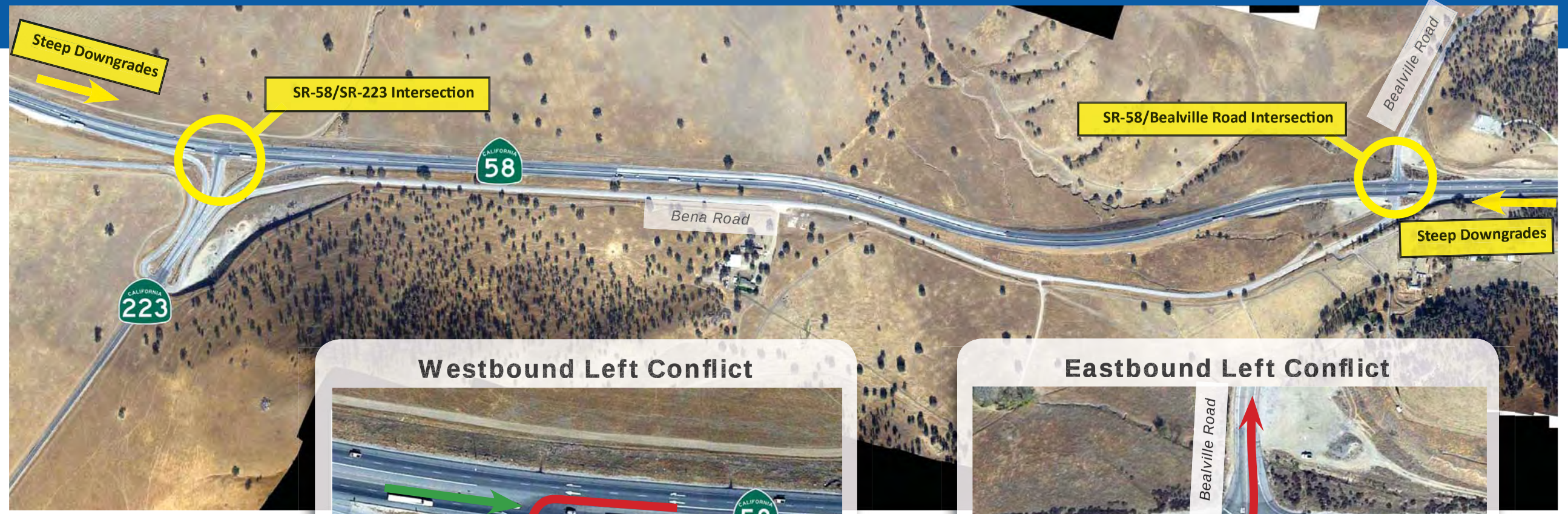


LOCATION MAP

Kern Council of Governments

Intersection Movements
Kern Council of Governments

Project Issues



Westbound Left Conflict

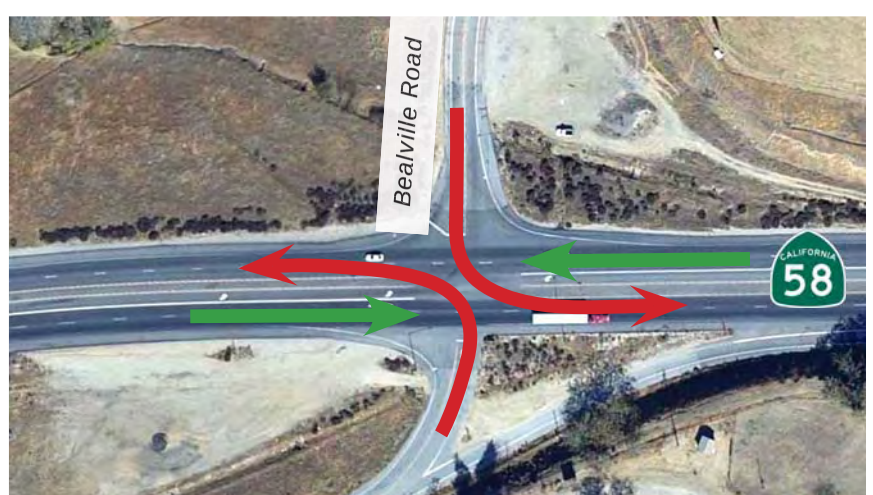
Eastbound Left Conflict

High-speed traffic does not stop

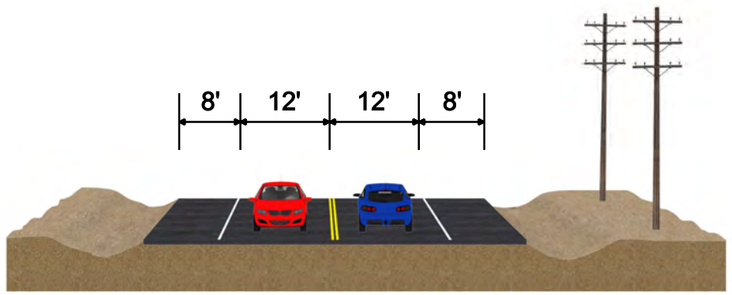
Low-speed turning traffic

Northbound Left Conflict

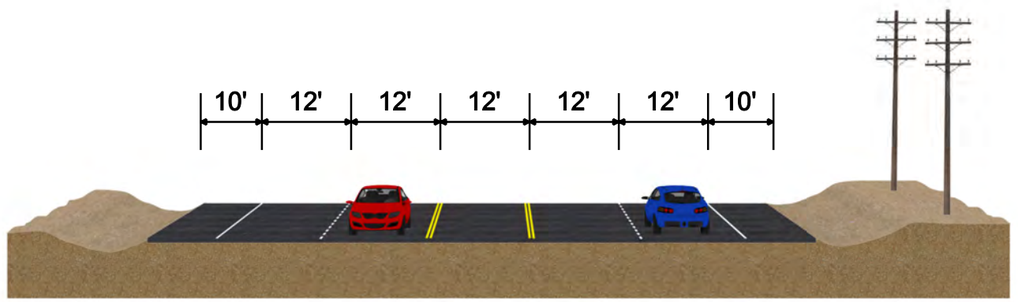
Northbound & Southbound Left



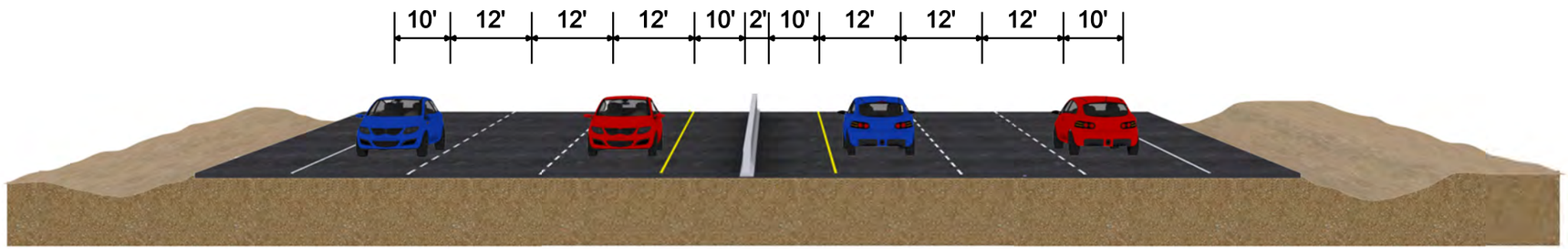
Interchange Feasibility Study
Kern COG



Bena Road/Bealville Road



Highway 223



Highway 58 (Future)

Typical Sections

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Interchange Feasibility Study
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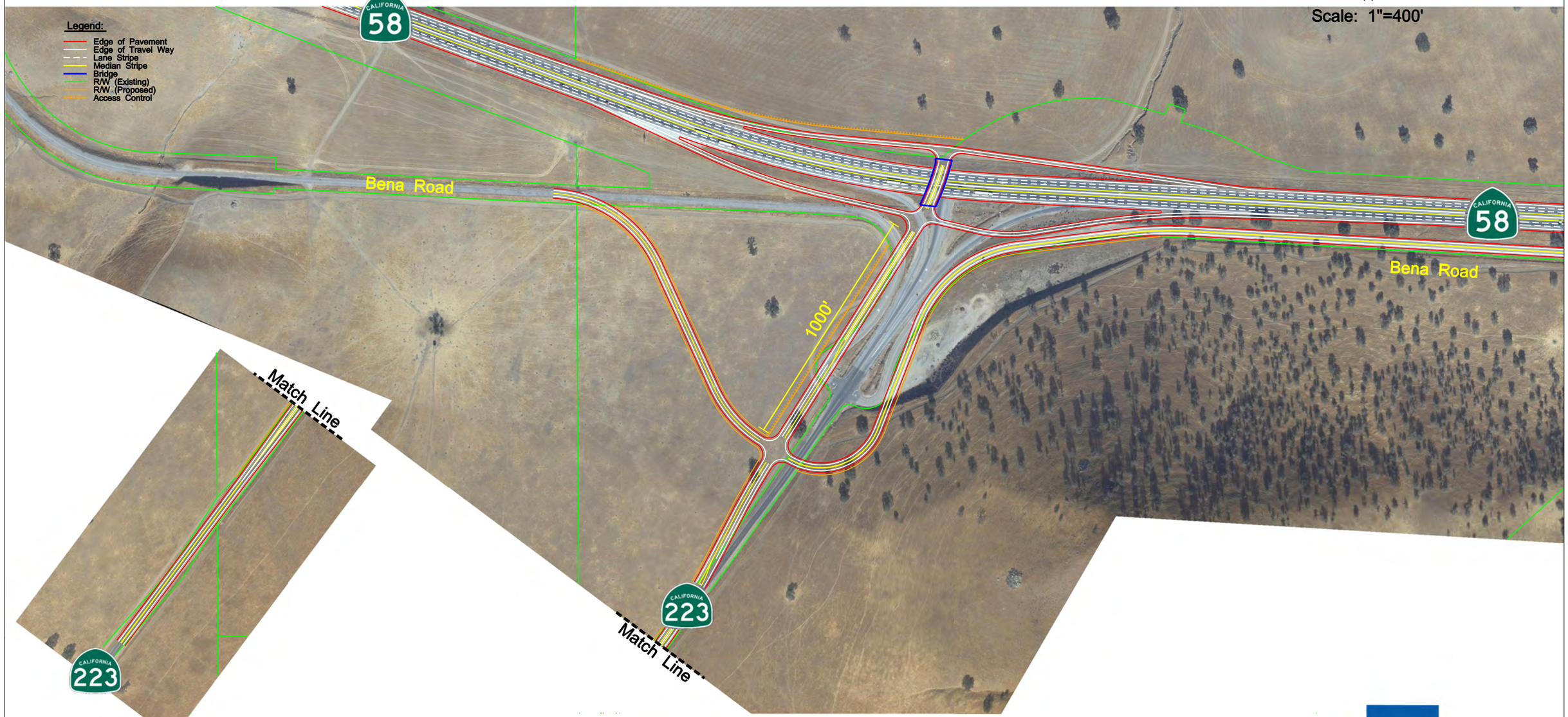
Scale: 1"=400'



Interchange: SR58/SR223
Alternative #1: Tight Diamond #1
Construction Cost: $27.2 Million

*Note: Costs do not include improvements to S.R. 58 Mainline

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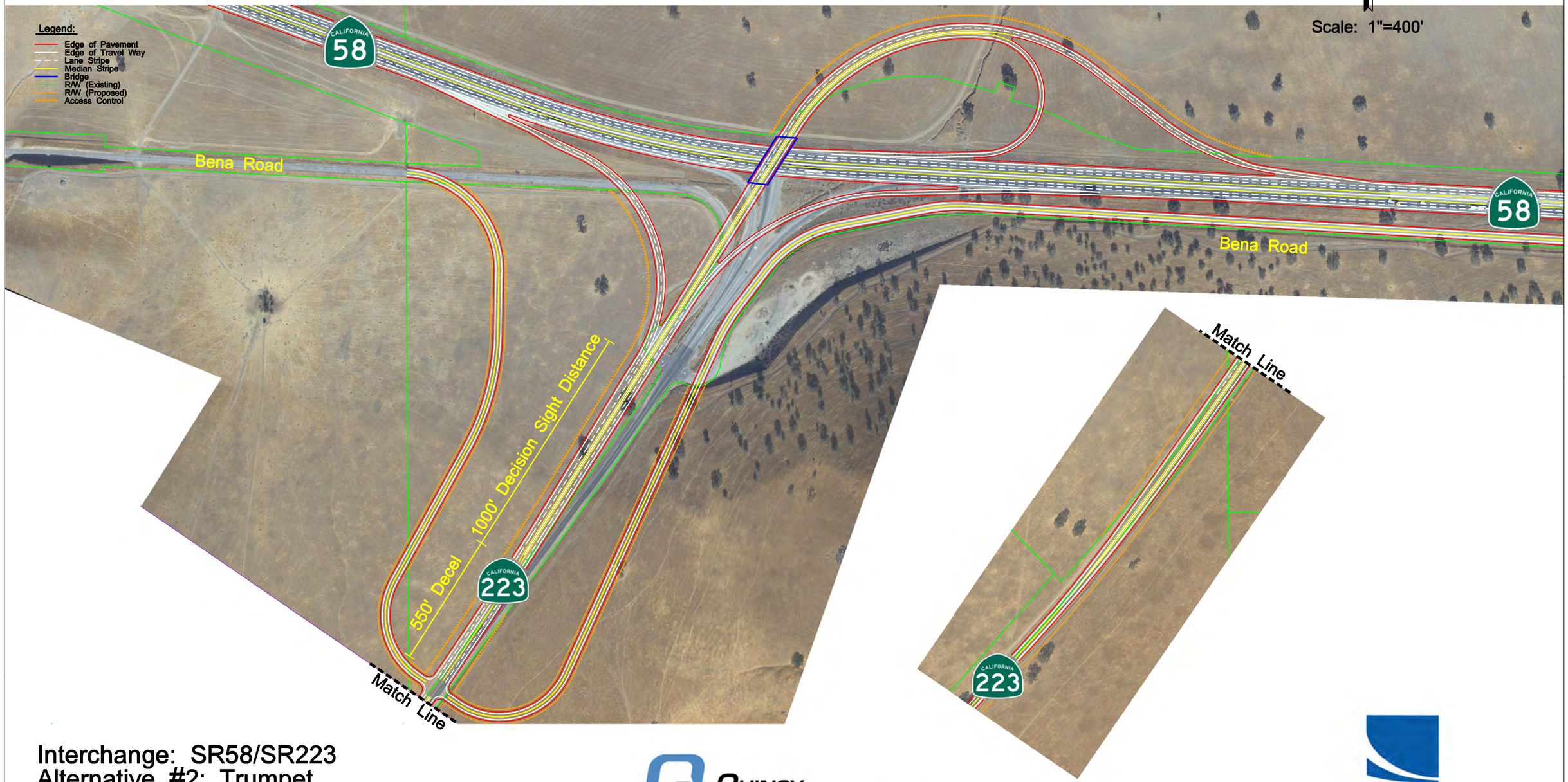
Kern COG



Interchange: SR58/SR223
Alternative #2: Trumpet
Construction Cost: $37.3 Million

*Note: Costs do not include improvements to S.R. 58 Mainline

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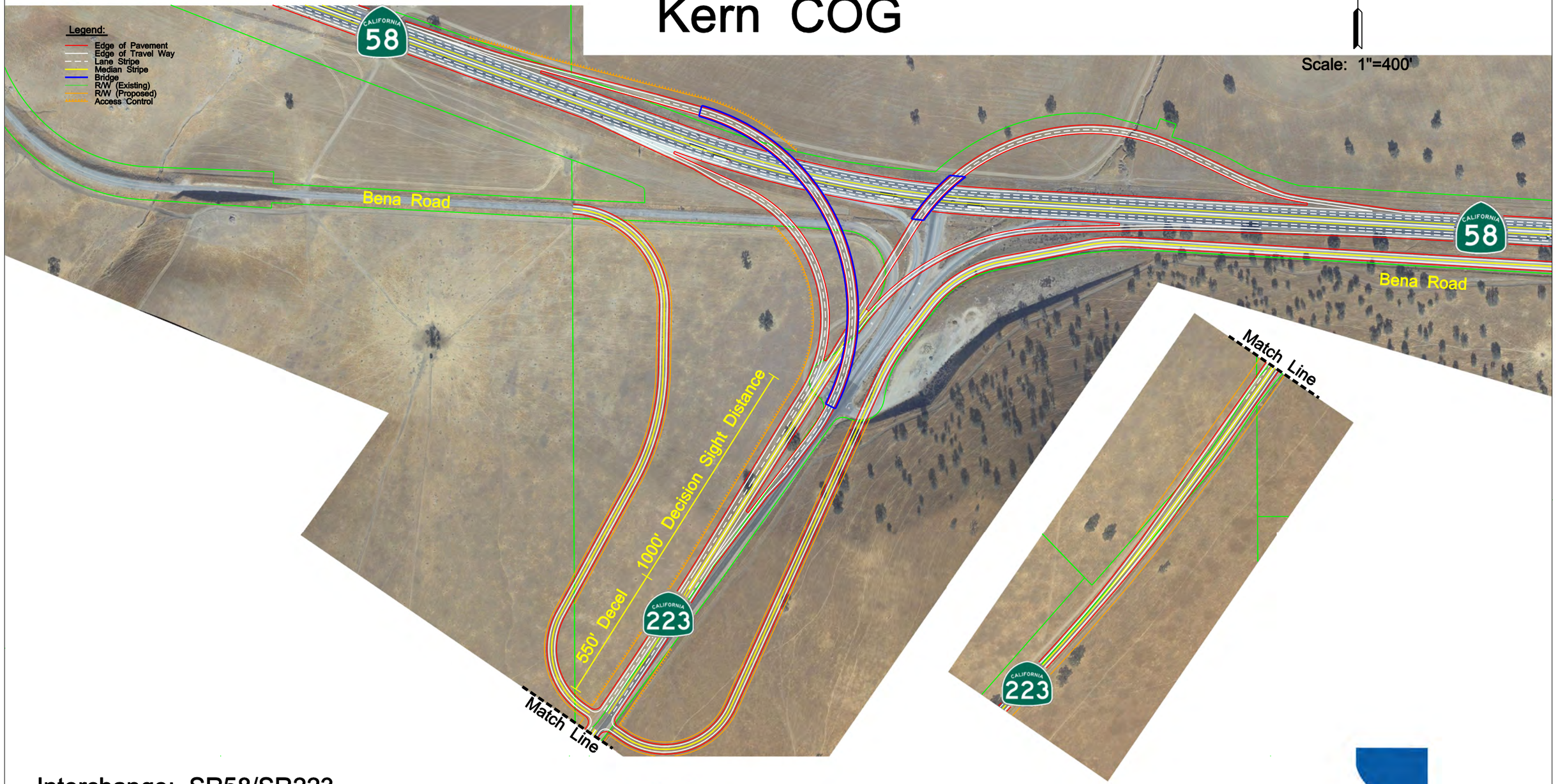
Scale: 1"=400'



Interchange: SR58/SR223
Alternative #3: Direct Connectors
Construction Cost: $50.1 Million

*Note: Costs do not include improvements to S.R. 58 Mainline

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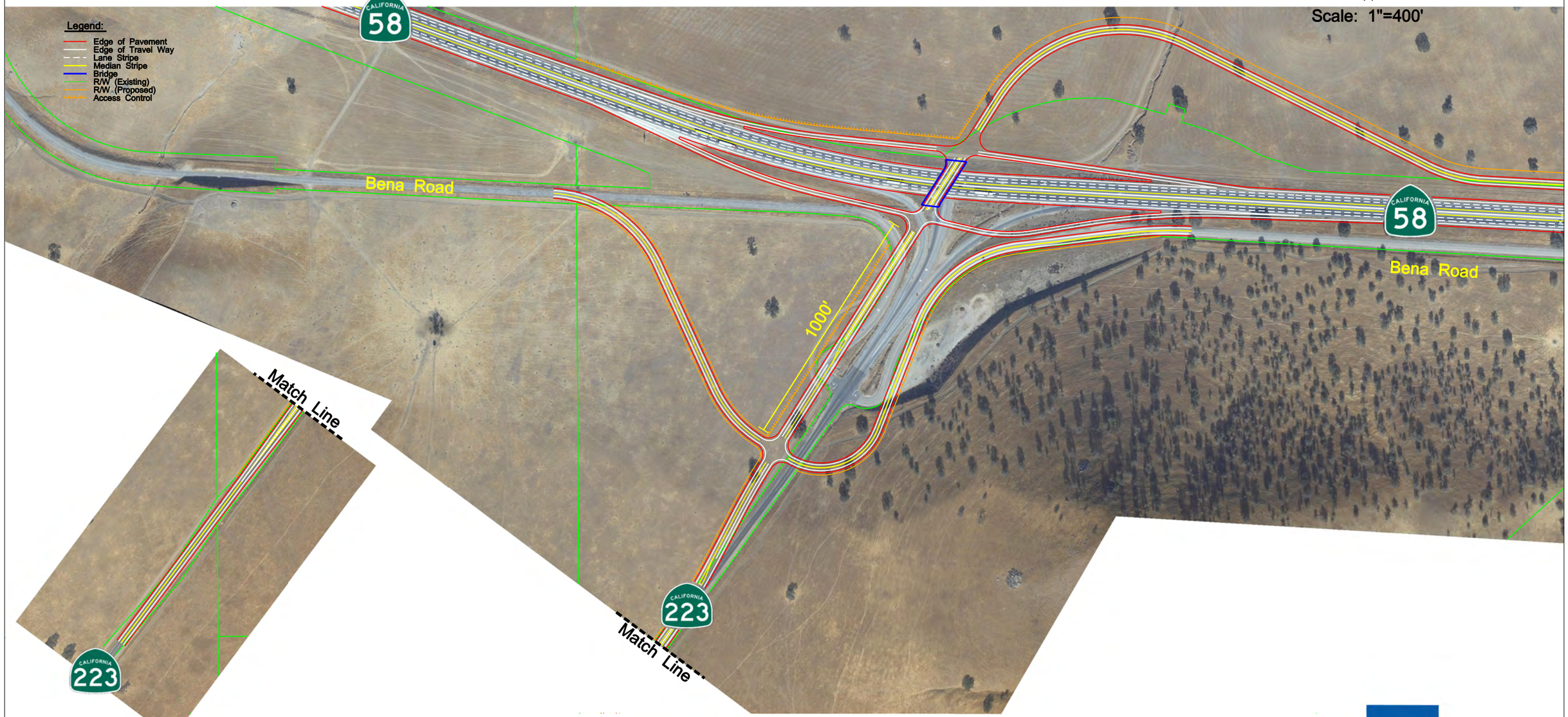
Interchange Feasibility Study
Kern COG

Scale: 1"=400'



Interchange: SR58/SR223
Alternative #4: Tight Diamond #2
Construction Cost: $29.5 Million

*Note: Costs do not include improvements to S.R. 58 Mainline

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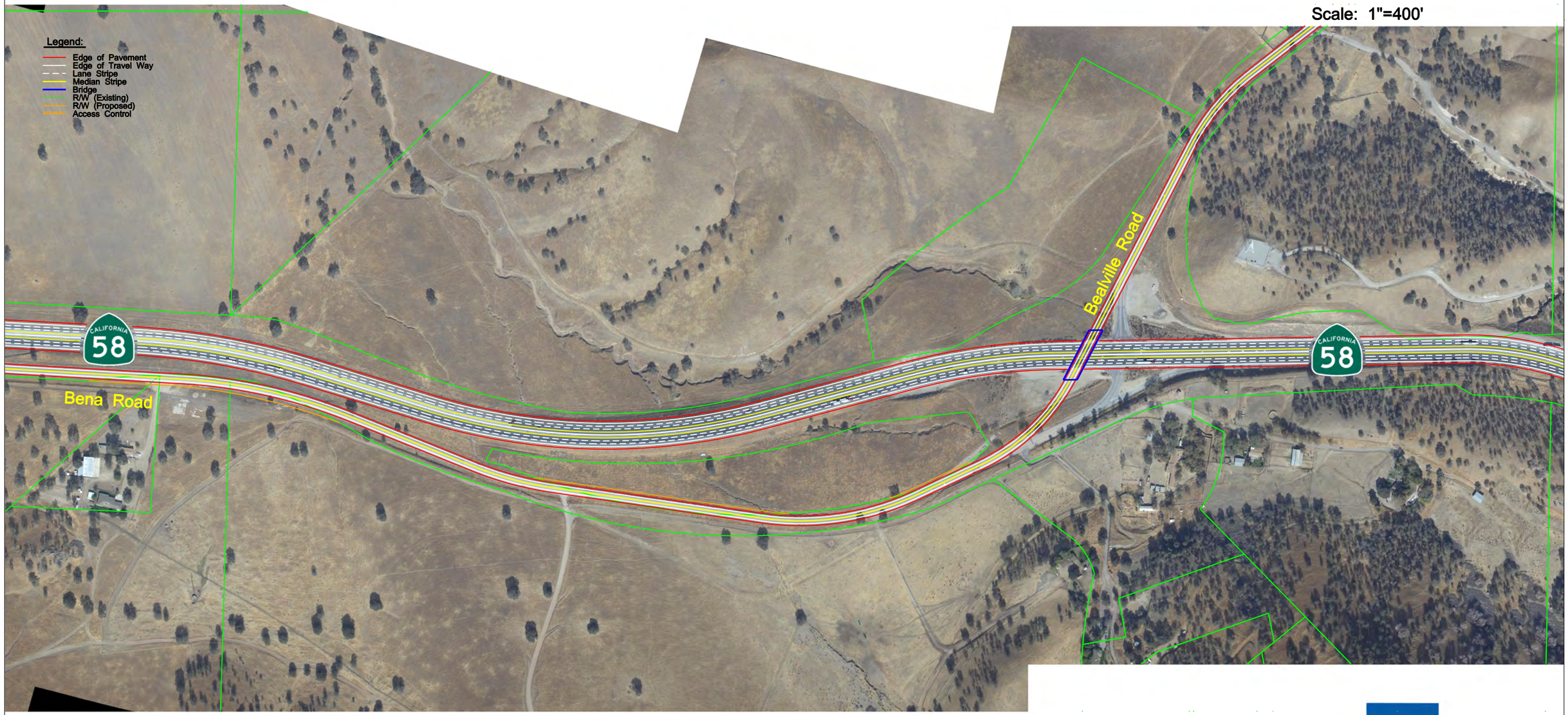
Kern COG

Scale: 1"=400'



SR58/Bealville Road Grade Separation
Alternative: See Alts #1 , #2, & #3
Cost : See Alts #1, #2, & #3

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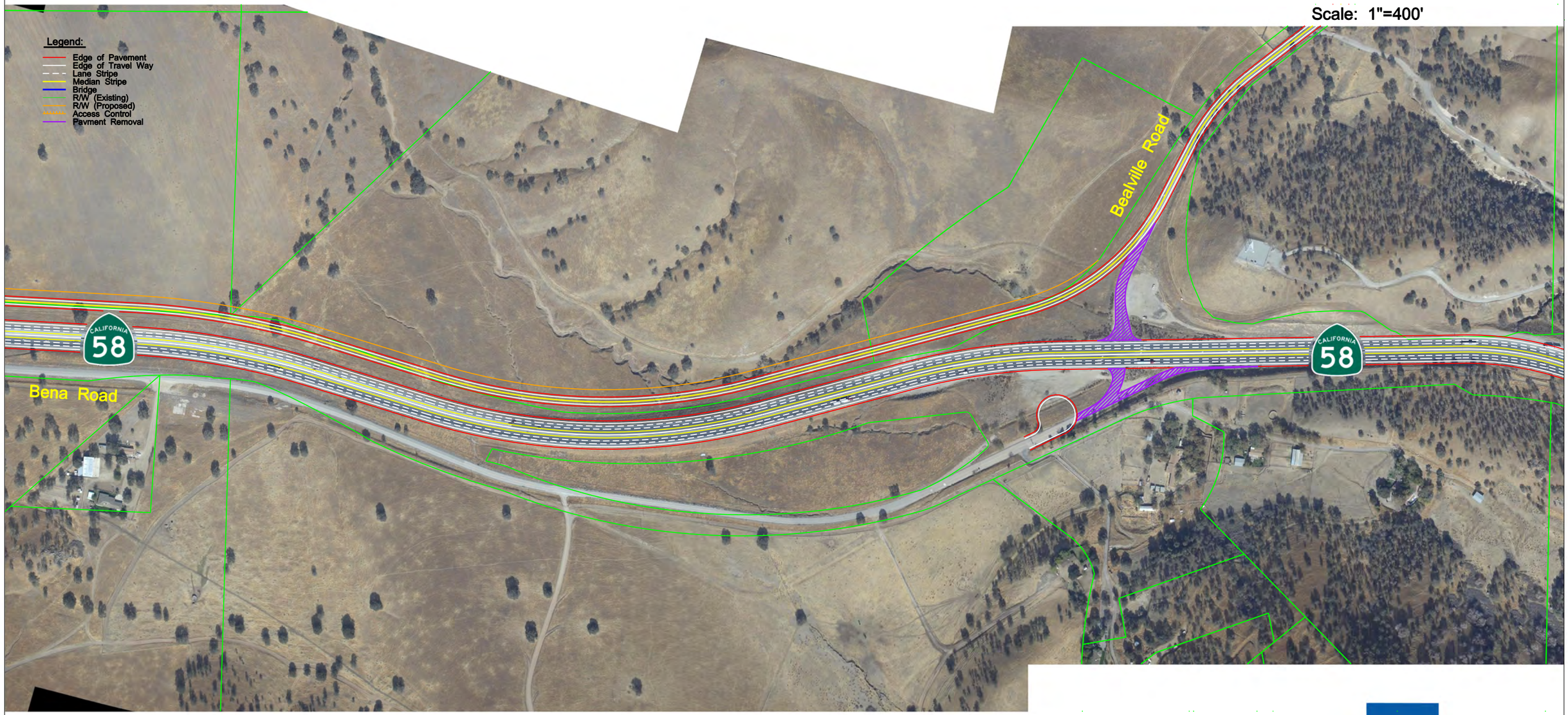
Scale: 1"=400'



SR58/Bealville Road Frontage Road
Alternative: See Alt #4
Cost : See Alt #4

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Preliminary Estimate of Construction Costs

06-KER-58, PM 75.62

PROJECT DESCRIPTION:

Limits: 1,500' to the west and east of the existing intersection of SR-58 and SR223.
1,700' south of the existing Bena Road/SR-223 intersection.

Proposed Improvement (Scope): Construct Interchange:
1) Construction of SR-223 overcrossing over SR-58
2) Construction of EB/WB On/Off-Ramps in a Type L-1 ("Tight Diamond") configuration
3) Realignment of Bena Road to accomodate the "Tight Diamond" configuration
4) Grade separation of Bealville Road over SR-58

Alternative: Tight Diamond #1 Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	**$ 19,160,000**
TOTAL STRUCTURE ITEMS	**$ 5,421,920**
SUBTOTAL CONSTRUCTION COSTS	**$ 24,581,920**
TOTAL RIGHT OF WAY ITEMS	**$ 2,639,560**
TOTAL ALTERNATIVE COST	**$ 27,221,480**

Reviewed by Consultant Project Engineer

(Signature) Carl H. Gibson III, P.E.

Approved by Consultant Project Manager Date 6/14/2011

(Signature) R. Brent Lemon, P.E.

Phone Number (916) 368-9181

I. ROADWAY ITEMS

Section 1. Earthwork	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Roadway Excavation	30,200	CY	$ 20.00	$ 604,000
Clearing & Grubbing	1	LS	$ 100,000.00	$ 100,000
Remove Unsuitable Material	1	LS	$ 200,000.00	$ 200,000
Imported Borrow	46,552	CY	$ 25.00	$ 1,163,800
			Subtotal Earthwork	$ 2,067,800

Section 2. Pavement Structural Section	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
New Pavement	744,874	SF	$ 10.00	$ 7,448,740
			Subtotal Pavement Structural Section	$ 7,448,740

Section 3. Drainage, Water, Sewer	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Drainage	1	LS	$ 650,000.00	$ 650,000
			Subtotal Drainage	$ 650,000

Section 4. Specialty Items	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Guardrails	1,000	LF	$ 20.00	$ 20,000
Water Pollution Control	1	LS	$ 150,000.00	$ 150,000
Landscaping and Aesthetic Treatment	1	LS	$ 80,000.00	$ 80,000
Environmental Compliance	1	LS	$ 100,000.00	$ 100,000
Resident Engineer Office Space	1	EA	$ 25,000.00	$ 25,000
			Subtotal Specialty Items	$ 375,000

Section 5. Traffic Items	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Lighting	10,000	LF	$ 30.00	$ 300,000
Traffic Signals (Complete Intersection)	1	EA	$ 200,000.00	$ 200,000
Overhead Signs	5	EA	$ 100,000.00	$ 500,000
Construction Area Signs	1	LS	$ 60,000.00	$ 60,000
Traffic Control	1	LS	$ 250,000.00	$ 250,000
Roadside Signs	1	LS	$ 40,000.00	$ 40,000
Pavement Delineation	59,186	LF	$ 2.00	$ 118,372
			Subtotal Traffic Items Section	$ 1,468,372

TOTAL SECTIONS 1 thru 5	$ 12,009,912

Section 6. Minor Items

$ 12,009,912 x (10%) = $ 1,200,991
(Subtotal Sections 1 thru 5)

Subtotal Minor Items $ 1,200,991

Section 7. Roadway Mobilization

$ 13,210,903 x (10%) = $ 1,321,090
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization $ 1,321,090

Section 8. Roadway Additions

Supplemental Work
$ 13,210,903 x (10%) = $ 1,321,090
(Subtotal Sections 1 thru 6)

Contingencies
$ 13,210,903 x (25%) = $ 3,302,726
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions $ 4,623,816

TOTAL ROADWAY ITEMS $ 19,155,810
(Subtotal Sections 1 thru 8)

SAY $ 19,160,000

Estimate Prepared By	Reimond H. Garcia, P.E. (Print Name)	**Phone #**	916-368-9181	**Date**	6/14/2011
Estimate Checked By	Carl H. Gibson III, P.E. (Print Name)	**Phone #**	916-368-9181	**Date**	6/14/2011

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)
Bridge Name	SR223	Bealville Road
Structure Type	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	56.00	44.00
Length - (ft)	215.00	210.00
Total Area -(ft^2)	12,040.00	9,240.00
Footing Type (pile/spread)	Pile	Pile
Cost per ft^2	$200	$200
Bridge (cost)	$ 2,408,000	$ 1,848,000
Contingency (20%)	$481,600	$369,600
Mobilization (10%)	$240,800	$73,920
Total Cost For Structure	$ 3,130,400	$ 2,291,520

Subtotal Structures Items $ 5,421,920
(Sum of Total Cost for Structures)

Railroad Related Costs:

	$ -
	$ -
	$ -

Subtotal Railroad Items $ -

TOTAL STRUCTURES ITEMS $ 5,421,920
(Sum of Sructures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By Reimond H. Garcia, P.E. (Print Name) **Phone #** 916-368-9181 **Date** 6/14/2011

Estimate Checked By Robert Ferguson, P.E. (Print Name) **Phone #** 916-368-9181 **Date** 6/14/2011

III. RIGHT OF WAY ITEMS

	ESCALATED VALUE
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 2,139,560
B. Utility Relocation (State Share)	$ 500,000
TOTAL RIGHT OF WAY ITEMS	$ 2,639,560

Anticipated Date of Right of Way Certification: _____
(Date to which Values are Escalated)

F. Construction Contract Work

Brief Description of Work:

_____	$ -
_____	$ -
_____	$ -
_____	$ -

Right of Way Branch Cost Estimate for Work $ -

COMMENTS:

Estimate Prepared By Reimond H. Garcia, P.E. (Print Name) **Phone #** 916-368-9181 **Date** 6/14/2011

Estimate Checked By Carl H. Gibson III, P.E. (Print Name) **Phone #** 916-368-9181 **Date** 6/14/2011

Preliminary Estimate of Construction Costs

06-KER-58, PM 75.62

PROJECT DESCRIPTION:

Limits: 1,400' to the west and 2,500' east of the existing intersection of SR-58 and SR223. 3,000' south of the existing Bena Road/SR-223 intersection.

Proposed Improvement (Scope): Construct Interchange:
1) Construction of SR-223 overcrossing over SR-58
2) Construction of EB/WB On/Off-Ramps in a L-11 ("Trumpet") configuration
3) Realignment of Bena Road to accomodate the "Trumpet" configuration
4) Grade separation of Bealville Road over SR-58

Alternative: Trumpet Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	**$ 24,750,000**
TOTAL STRUCTURE ITEMS	**$ 6,004,320**
SUBTOTAL CONSTRUCTION COSTS	**$ 30,754,320**
TOTAL RIGHT OF WAY ITEMS	**$ 6,531,225**
TOTAL ALTERNATIVE COST	**$ 37,285,545**

Reviewed by Consultant Project Engineer

(Signature) Carl H. Gibson III, P.E.

Approved by Consultant Project Manager Date 6/14/2011

(Signature) R. Brent Lemon, P.E.

Phone Number (916) 368-9181

I. ROADWAY ITEMS

Section 1. Earthwork	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Roadway Excavation	57,000	CY	$ 20.00	$ 1,140,000
Clearing & Grubbing	1	LS	$ 100,000.00	$ 100,000
Remove Unsuitable Material	1	LS	$ 200,000.00	$ 200,000
Imported Borrow	3,100	CY	$ 25.00	$ 77,500
			Subtotal Earthwork	$ 1,517,500

Section 2. Pavement Structural Section	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
New Pavement	1,076,826	SF	$ 10.00	$ 10,768,260
			Subtotal Pavement Structural Section	$ 10,768,260

Section 3. Drainage, Water, Sewer	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Drainage	1	LS	$ 950,000.00	$ 950,000
			Subtotal Drainage	$ 950,000

Section 4. Specialty Items	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Guardrails	200	LF	$ 20.00	$ 4,000
Water Pollution Control	1	LS	$ 150,000.00	$ 150,000
Landscaping and Aesthetic Treatment	1	LS	$ 80,000.00	$ 80,000
Environmental Compliance	1	LS	$ 100,000.00	$ 100,000
Resident Engineer Office Space	1	EA	$ 25,000.00	$ 25,000
			Subtotal Specialty Items	$ 359,000

Section 5. Traffic Items	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Lighting	20,000	LF	$ 30.00	$ 600,000
Traffic Signals (Complete Intersection)	1	EA	$ 200,000.00	$ 200,000
Overhead Signs	6	EA	$ 100,000.00	$ 600,000
Construction Area Signs	1	LS	$ 60,000.00	$ 60,000
Traffic Control	1	LS	$ 250,000.00	$ 250,000
Roadside Signs	1	LS	$ 40,000.00	$ 40,000
Pavement Delineation	85,590	LF	$ 2.00	$ 171,180
			Subtotal Traffic Items Section	$ 1,921,180

TOTAL SECTIONS 1 thru 5	$ 15,515,940

Section 6. Minor Items

$ 15,515,940 x (10%) = $ 1,551,594
(Subtotal Sections 1 thru 5)

Subtotal Minor Items $ 1,551,594

Section 7. Roadway Mobilization

$ 17,067,534 x (10%) = $ 1,706,753
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization $ 1,706,753

Section 8. Roadway Additions

Supplemental Work
$ 17,067,534 x (10%) = $ 1,706,753
(Subtotal Sections 1 thru 6)

Contingencies
$ 17,067,534 x (25%) = $ 4,266,884
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions $ 5,973,637

TOTAL ROADWAY ITEMS $ 24,747,924
(Subtotal Sections 1 thru 8)

SAY $ 24,750,000

Estimate Prepared By	Reimond H. Garcia, P.E. (Print Name)	**Phone #**	916-368-9181	**Date**	6/14/2011
Estimate Checked By	Carl H. Gibson III, P.E. (Print Name)	**Phone #**	916-368-9181	**Date**	6/14/2011

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)
Bridge Name	SR223	Bealville Road
Structure Type	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	68.00	44.00
Length - (ft)	210.00	210.00
Total Area -(ft^2)	14,280.00	9,240.00
Footing Type (pile/spread)	Pile	Pile
Cost per ft^2	$200	$200
Bridge (cost)	$ 2,856,000	$ 1,848,000
Contingency (20%)	$571,200	$369,600
Mobilization (10%)	$285,600	$73,920
Total Cost For Structure	$ 3,712,800	$ 2,291,520

Subtotal Structures Items $ 6,004,320
(Sum of Total Cost for Structures)

Railroad Related Costs:

	$ -
	$ -
	$ -

Subtotal Railroad Items $ -

TOTAL STRUCTURES ITEMS $ 6,004,320
(Sum of Sructures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By Reimond H. Garcia, P.E. (Print Name) **Phone #** 916-368-9181 **Date** 6/14/2011

Estimate Checked By Robert Ferguson, P.E. (Print Name) **Phone #** 916-368-9181 **Date** 6/14/2011

III. RIGHT OF WAY ITEMS

	ESCALATED VALUE
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 6,031,225
B. Utility Relocation (State Share)	$ 500,000
TOTAL RIGHT OF WAY ITEMS	$ 6,531,225

Anticipated Date of Right of Way Certification: _____
(Date to which Values are Escalated)

F. Construction Contract Work

Brief Description of Work:

_____	$ -
_____	$ -
_____	$ -
_____	$ -

Right of Way Branch Cost Estimate for Work $ -

COMMENTS:

Estimate Prepared By Reimond H. Garcia, P.E. (Print Name) **Phone #** 916-368-9181 **Date** 6/14/2011

Estimate Checked By Carl H. Gibson III, P.E. (Print Name) **Phone #** 916-368-9181 **Date** 6/14/2011

Preliminary Estimate of Construction Costs

06-KER-58, PM 75.62

PROJECT DESCRIPTION:

Limits: 2,900' to the west and 2,000' east of the existing intersection of SR-58 and SR223. 3,000' south of the existing Bena Road/SR-223 intersection.

Proposed Improvement (Scope): Construct Interchange:
1) Construction of SR-223 overcrossing over SR-58
2) Construction of NB SR-223 to WB SR-58 Connector
3) Construction of WB-58 to SB SR-223 Connector
4) Construction of EB On/Off-Ramps from and to SR-58
5) Realignment of Bena Road to accomodate the "Direct Connector" configuration
6) Grade separation of Bealville Road over SR-58

Alternative: Direct Connector Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	**$ 23,540,000**
TOTAL STRUCTURE ITEMS	**$ 21,864,320**
SUBTOTAL CONSTRUCTION COSTS	**$ 45,404,320**
TOTAL RIGHT OF WAY ITEMS	**$ 4,653,910**
TOTAL ALTERNATIVE COST	**$ 50,058,230**

Reviewed by Consultant Project Engineer _____
(Signature) Carl H. Gibson III, P.E.

Approved by Consultant Project Manager _____ Date 6/14/2011
(Signature) R. Brent Lemon, P.E.

Phone Number (916) 368-9181

I. ROADWAY ITEMS

Section 1. Earthwork	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Roadway Excavation	52,600	CY	$ 20.00	$ 1,052,000
Clearing & Grubbing	1	LS	$ 100,000.00	$ 100,000
Remove Unsuitable Material	1	LS	$ 200,000.00	$ 200,000
Imported Borrow	(3,356)	CY	$ 25.00	$ (83,900)
			Subtotal Earthwork	$ 1,268,100

Section 2. Pavement Structural Section	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
New Pavement	1,020,791	SF	$ 10.00	$ 10,207,910
			Subtotal Pavement Structural Section	$ 10,207,910

Section 3. Drainage, Water, Sewer	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Drainage	1	LS	$ 850,000.00	$ 850,000
			Subtotal Drainage	$ 850,000

Section 4. Specialty Items	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Guardrails	300	LF	$ 20.00	$ 6,000
Water Pollution Control	1	LS	$ 150,000.00	$ 150,000
Landscaping and Aesthetic Treatment	1	LS	$ 80,000.00	$ 80,000
Environmental Compliance	1	LS	$ 100,000.00	$ 100,000
Resident Engineer Office Space	1	EA	$ 25,000.00	$ 25,000
			Subtotal Specialty Items	$ 361,000

Section 5. Traffic Items	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Lighting	25,000	LF	$ 30.00	$ 750,000
Traffic Signals (Complete Intersection)	1	EA	$ 200,000.00	$ 200,000
Overhead Signs	6	EA	$ 100,000.00	$ 600,000
Construction Area Signs	1	LS	$ 60,000.00	$ 60,000
Traffic Control	1	LS	$ 250,000.00	$ 250,000
Roadside Signs	1	LS	$ 40,000.00	$ 40,000
Pavement Delineation	84,600	LF	$ 2.00	$ 169,200
			Subtotal Traffic Items Section	$ 2,069,200

TOTAL SECTIONS 1 thru 5	$ 14,756,210

Section 6. Minor Items

$ 14,756,210 x (10%) = $ 1,475,621
(Subtotal Sections 1 thru 5)

Subtotal Minor Items $ 1,475,621

Section 7. Roadway Mobilization

$ 16,231,831 x (10%) = $ 1,623,183
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization $ 1,623,183

Section 8. Roadway Additions

Supplemental Work
$ 16,231,831 x (10%) = $ 1,623,183
(Subtotal Sections 1 thru 6)

Contingencies
$ 16,231,831 x (25%) = $ 4,057,958
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions $ 5,681,141

TOTAL ROADWAY ITEMS $ 23,536,155
(Subtotal Sections 1 thru 8)

SAY $ 23,540,000

Estimate Prepared By	Reimond H. Garcia, P.E. (Print Name)	**Phone #**	916-368-9181	**Date**	6/14/2011
Estimate Checked By	Carl H. Gibson III, P.E. (Print Name)	**Phone #**	916-368-9181	**Date**	6/14/2011

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	SR223	Direct Connector	Bealville Road
Structure Type	CIP/PS Box	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	40.00	40.00	44.00
Length - (ft)	210.00	1,520.00	210.00
Total Area -(ft^2)	8,400.00	60,800.00	9,240.00
Footing Type (pile/spread)	Pile	Pile	Pile
Cost per ft^2	$200	$220	$200
Bridge (cost)	$ 1,680,000	$ 13,376,000	$ 1,848,000
Contingency (20%)	$336,000	$2,675,200	$369,600
Mobilization (10%)	$168,000	$1,337,600	$73,920
Total Cost For Structure	$ 2,184,000	$ 17,388,800	$ 2,291,520

Subtotal Structures Items $ 21,864,320

(Sum of Total Cost for Structures)

Railroad Related Costs:

	$ -
	$ -
	$ -

Subtotal Railroad Items $ -

TOTAL STRUCTURES ITEMS $ 21,864,320

(Sum of Sructures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By Reimond H. Garcia, P.E. (Print Name) **Phone #** 916-368-9181 **Date** 6/14/2011

Estimate Checked By Robert Ferguson, P.E. (Print Name) **Phone #** 916-368-9181 **Date** 6/14/2011

III. RIGHT OF WAY ITEMS

	ESCALATED VALUE
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 4,153,910
B. Utility Relocation (State Share)	$ 500,000
TOTAL RIGHT OF WAY ITEMS	$ 4,653,910

Anticipated Date of Right of Way Certification: _____
(Date to which Values are Escalated)

F. Construction Contract Work

Brief Description of Work:

_____	$ -
_____	$ -
_____	$ -
_____	$ -

Right of Way Branch Cost Estimate for Work $ -

COMMENTS:

Estimate Prepared By Reimond H. Garcia, P.E. (Print Name) **Phone #** 916-368-9181 **Date** 6/14/2011

Estimate Checked By Carl H. Gibson III, P.E. (Print Name) **Phone #** 916-368-9181 **Date** 6/14/2011

Preliminary Estimate of Construction Costs

06-KER-58, PM 75.62

PROJECT DESCRIPTION:

Limits: 1,500' to the west and east of the existing intersection of SR-58 and SR223.
1,700' south of the existing Bena Road/SR-223 intersection.

Proposed Improvement (Scope): Construct Interchange:
1) Construction of SR-223 overcrossing over SR-58
2) Construction of EB/WB On/Off-Ramps in a Type L-1 ("Tight Diamond") configuration
3) Realignment of Bena Road to accomodate the "Tight Diamond" configuration
4) Realignment of Bealville Road to frontage road north of SR-58

Alternative: Tight Diamond #2 Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	**$ 19,460,000**
TOTAL STRUCTURE ITEMS	**$ 3,172,000**
SUBTOTAL CONSTRUCTION COSTS	**$ 22,632,000**
TOTAL RIGHT OF WAY ITEMS	**$ 6,807,035**
TOTAL ALTERNATIVE COST	**$ 29,439,035**

Reviewed by Consultant Project Engineer

(Signature) Carl H. Gibson III, P.E.

Approved by Consultant Project Manager Date 6/14/2011

(Signature) R. Brent Lemon, P.E.

Phone Number (916) 368-9181

I. ROADWAY ITEMS

Section 1. Earthwork	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Roadway Excavation	35,300	CY	$ 20.00	$ 706,000
Clearing & Grubbing	1	LS	$ 100,000.00	$ 100,000
Remove Unsuitable Material	1	LS	$ 200,000.00	$ 200,000
Imported Borrow	41,962	CY	$ 25.00	$ 1,049,050
			Subtotal Earthwork	$ 2,055,050

Section 2. Pavement Structural Section	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
New Pavement	765,744	SF	$ 10.00	$ 7,657,440
			Subtotal Pavement Structural Section	$ 7,657,440

Section 3. Drainage, Water, Sewer	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Drainage	1	LS	$ 650,000.00	$ 650,000
			Subtotal Drainage	$ 650,000

Section 4. Specialty Items	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Guardrails	900	LF	$ 20.00	$ 18,000
Water Pollution Control	1	LS	$ 150,000.00	$ 150,000
Landscaping and Aesthetic Treatment	1	LS	$ 80,000.00	$ 80,000
Environmental Compliance	1	LS	$ 100,000.00	$ 100,000
Resident Engineer Office Space	1	EA	$ 25,000.00	$ 25,000
			Subtotal Specialty Items	$ 373,000

Section 5. Traffic Items	**Quantity**	**Unit**	**Unit Price**	**Item Cost**
Lighting	10,000	LF	$ 30.00	$ 300,000
Traffic Signals (Complete Intersection)	1	EA	$ 200,000.00	$ 200,000
Overhead Signs	5	EA	$ 100,000.00	$ 500,000
Construction Area Signs	1	LS	$ 60,000.00	$ 60,000
Traffic Control	1	LS	$ 250,000.00	$ 250,000
Roadside Signs	1	LS	$ 40,000.00	$ 40,000
Pavement Delineation	57,156	LF	$ 2.00	$ 114,312
			Subtotal Traffic Items Section	$ 1,464,312

TOTAL SECTIONS 1 thru 5	$ 12,199,802

Section 6. Minor Items

$ 12,199,802 x (10%) = $ 1,219,980
(Subtotal Sections 1 thru 5)

Subtotal Minor Items $ 1,219,980

Section 7. Roadway Mobilization

$ 13,419,782 x (10%) = $ 1,341,978
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization $ 1,341,978

Section 8. Roadway Additions

Supplemental Work
$ 13,419,782 x (10%) = $ 1,341,978
(Subtotal Sections 1 thru 6)

Contingencies
$ 13,419,782 x (25%) = $ 3,354,946
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions $ 4,696,924

TOTAL ROADWAY ITEMS $ 19,458,684
(Subtotal Sections 1 thru 8)

SAY $ 19,460,000

Estimate Prepared By	Reimond H. Garcia, P.E. (Print Name)	**Phone #**	916-368-9181	**Date**	6/14/2011
Estimate Checked By	Carl H. Gibson III, P.E. (Print Name)	**Phone #**	916-368-9181	**Date**	6/14/2011

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)
Bridge Name	SR223	Bealville
Structure Type	CIP/PS Box	Box Culvert
Width (out to out) - (ft)	55.00	40.00
Length - (ft)	200.00	40.00
Total Area -(ft^2)	11,000.00	1,600.00
Footing Type (pile/spread)	Pile	N/A
Cost per ft^2	$200	$150
Bridge (cost)	$ 2,200,000	$ 240,000
Contingency (20%)	$440,000	$48,000
Mobilization (10%)	$220,000	$24,000
Total Cost For Structure	$ 2,860,000	$ 312,000

Subtotal Structures Items $ 3,172,000
(Sum of Total Cost for Structures)

Railroad Related Costs:

	$ -
	$ -
	$ -

Subtotal Railroad Items $ -

TOTAL STRUCTURES ITEMS $ 3,172,000
(Sum of Sructures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	Reimond H. Garcia, P.E. (Print Name)	**Phone #**	916-368-9181	**Date**	6/14/2011
Estimate Checked By	Robert Ferguson, P.E. (Print Name)	**Phone #**	916-368-9181	**Date**	6/14/2011

III. RIGHT OF WAY ITEMS

	ESCALATED VALUE
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 6,307,035
B. Utility Relocation (State Share)	$ 500,000
TOTAL RIGHT OF WAY ITEMS	$ 6,807,035

Anticipated Date of Right of Way Certification: _____
(Date to which Values are Escalated)

F. Construction Contract Work

Brief Description of Work:

_____	$ -
_____	$ -
_____	$ -
_____	$ -

Right of Way Branch Cost Estimate for Work $ -

COMMENTS:

Estimate Prepared By Reimond H. Garcia, P.E. (Print Name) **Phone #** 916-368-9181 **Date** 6/14/2011

Estimate Checked By Carl H. Gibson III, P.E. (Print Name) **Phone #** 916-368-9181 **Date** 6/14/2011

PREPARED FOR KERN COUNCIL OF GOVERNMENTS

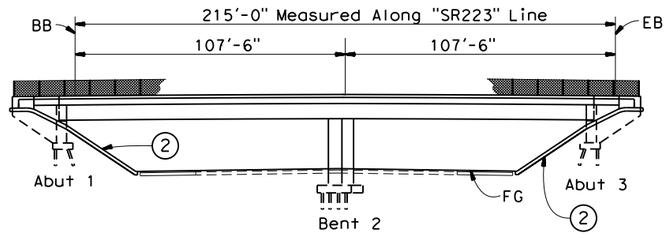
Notes:

(1) Structure Approach Type EQ(10)

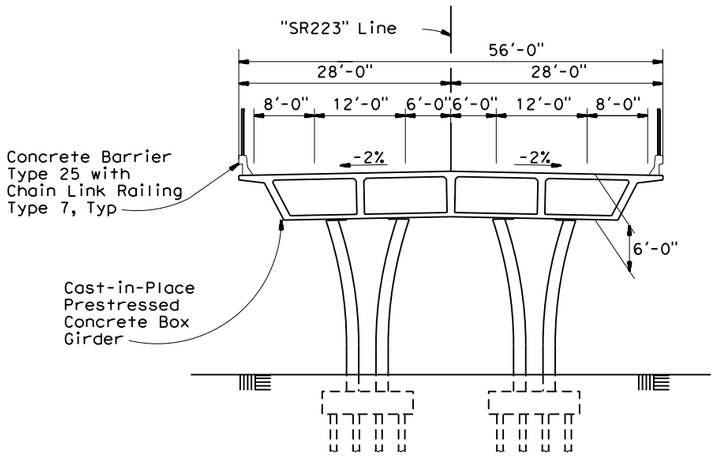
(2) Full Slope Paving

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT
6	Ker	58	75.62

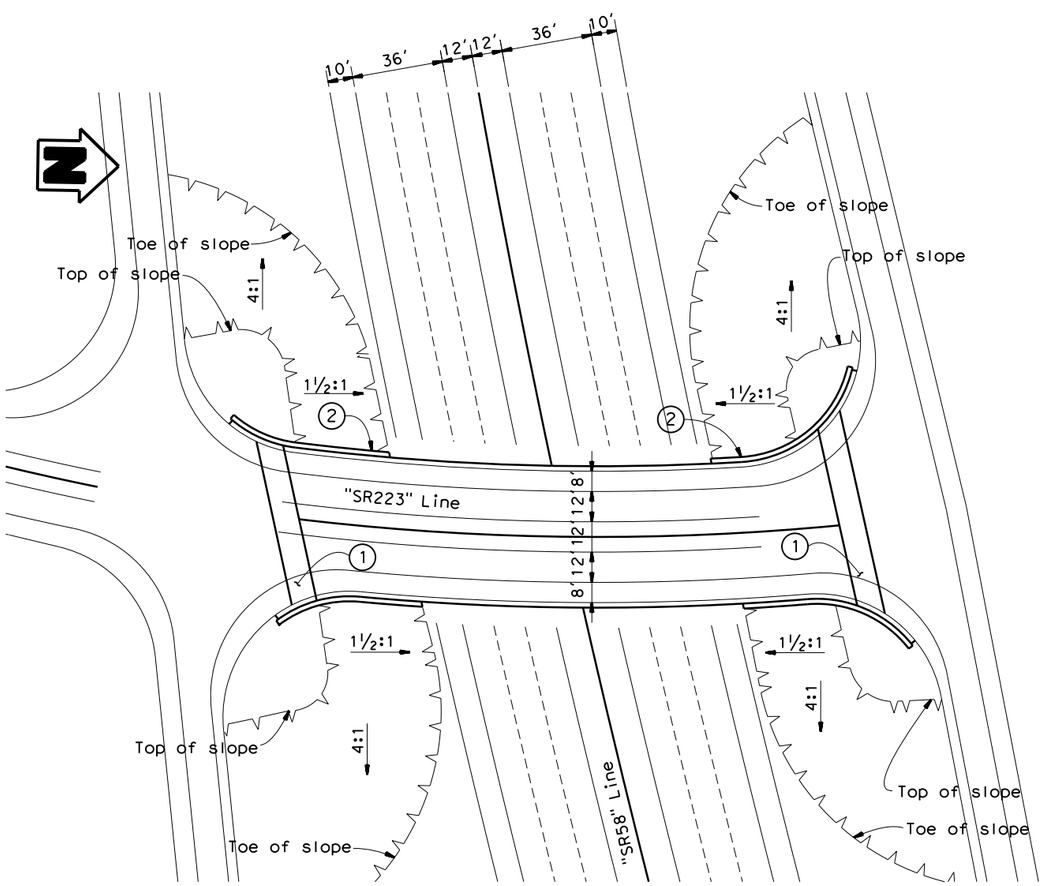
QUINCY ENGINEERING, INC
3247 Ramos Circle
Sacramento, CA 95827 - 2501



ELEVATION
1"=30'



TYPICAL SECTION
1"=10'



PLAN
1"=30'

Date of Estimate 05/09/11
Structure Depth = 6.00
Length = 215.00
Width = 56.00
Area (ft2) = 12,040
Cost / ft2 including = 200.00
10% Mobilization\
20% Contingency
Total Cost = 3,130,400

DESIGNED BY M. Ruble	DATE May 11	Carl H. Gibson, PROJECT ENGINEER	**PLANNING STUDY**
DRAWN BY M. Ruble	DATE May 11		SR 58 / Alt 1,4
CHECKED BY	DATE		BRIDGE NO. / CU
APPROVED	DATE		SCALE: AS SHOWN / EA

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PREPARED FOR KERN COUNCIL OF GOVERNMENTS

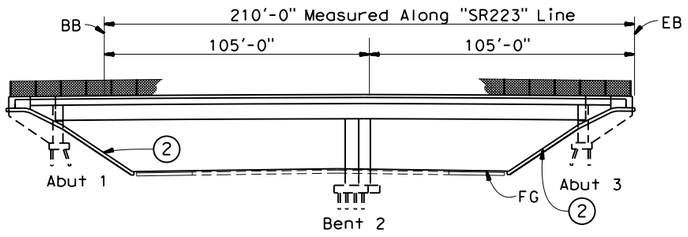
Notes:

(1) Structure Approach Type EQ(10)

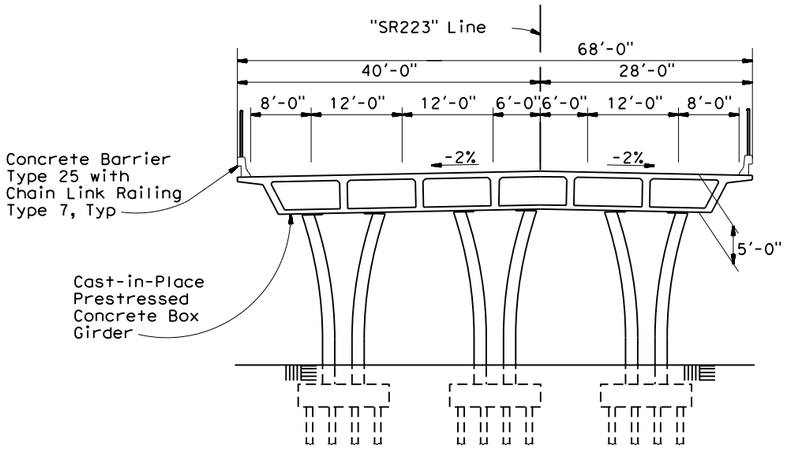
(2) Full Slope Paving

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT
6	Ker	58	75.62

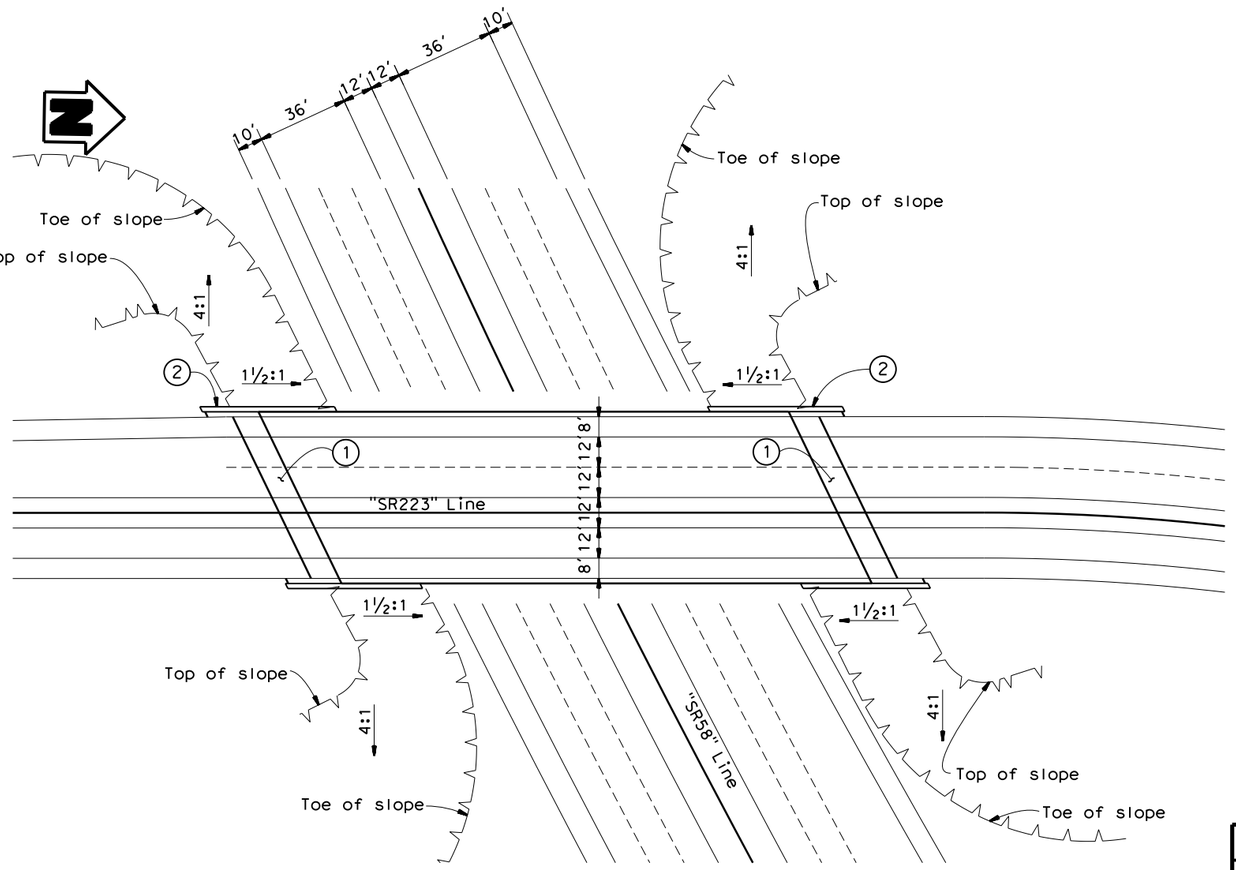
QUINCY ENGINEERING, INC
3247 Ramos Circle
Sacramento, CA 95827 - 2501



ELEVATION
1"=30'



TYPICAL SECTION
1"=10'



PLAN
1"=30'

Date of Estimate	05/09/11
Structure Depth	= 5.00
Length	= 210.00
Width	= 68.00
Area (ft2)	= 14,280
Cost / ft2 including 10% Mobilization\ 20% Contingency	= 200.00
Total Cost	= 3,712,800

DESIGNED BY M. Ruble	DATE May 11	Carl H. Gibson PROJECT ENGINEER	**PLANNING STUDY**
DRAWN BY M. Ruble	DATE May 11		SR58 / Alt 2
CHECKED BY	DATE		BRIDGE NO. / CU
APPROVED	DATE		SCALE: AS SHOWN / EA

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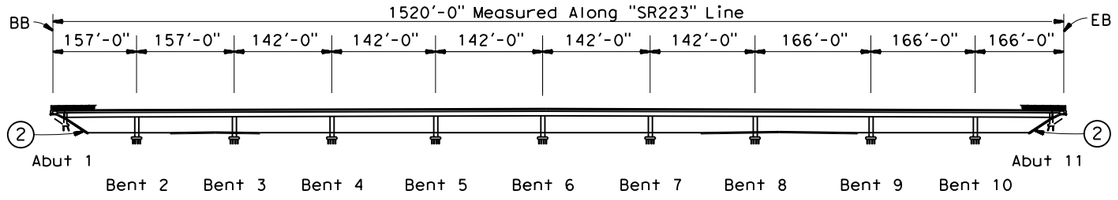
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT
6	Ker	58	75.62

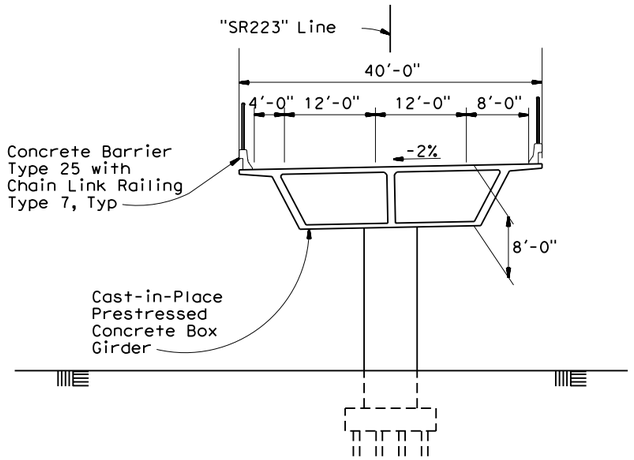
QUINCY ENGINEERING, INC
3247 Ramos Circle
Sacramento, CA 95827 - 2501

Notes:

1. Structure Approach Type EQ(10)
2. Full Slope Paving



ELEVATION
1"=100'



TYPICAL SECTION
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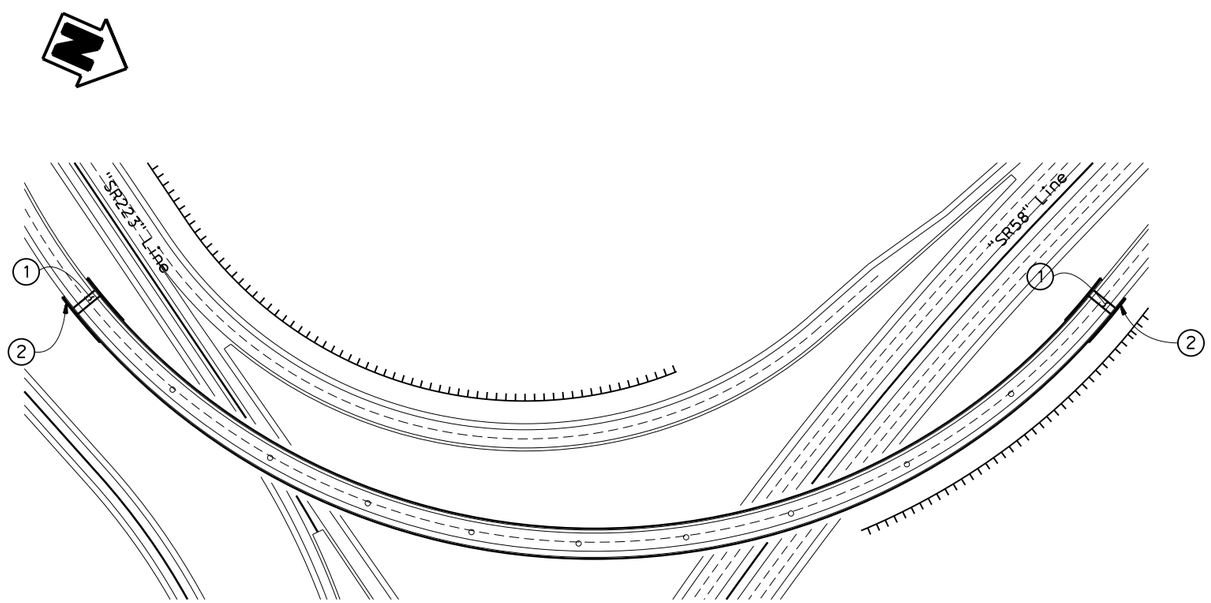

PLAN
1"=100'

Date of Estimate	05/09/11
Structure Depth	= 8.00
Length	= 1520.00
Width	= 40.00
Area (ft2)	= 60,800
Cost / ft2 including 10% Mobilization\ 20% Contingency	= 220.00
Total Cost	= 17,388,800

DESIGNED BY M. Ruble	DATE May 11	Carl H. Gibson, PROJECT ENGINEER	**PLANNING STUDY**
DRAWN BY M. Ruble	DATE May 11		Direct Connector - Alt 3
CHECKED BY	DATE		BRIDGE NO. / CU
APPROVED	DATE		SCALE: AS SHOWN / EA

PREPARED FOR KERN COUNCIL OF GOVERNMENTS

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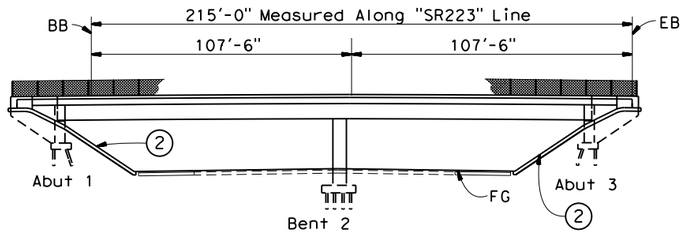
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT
6	Ker	58	75.62

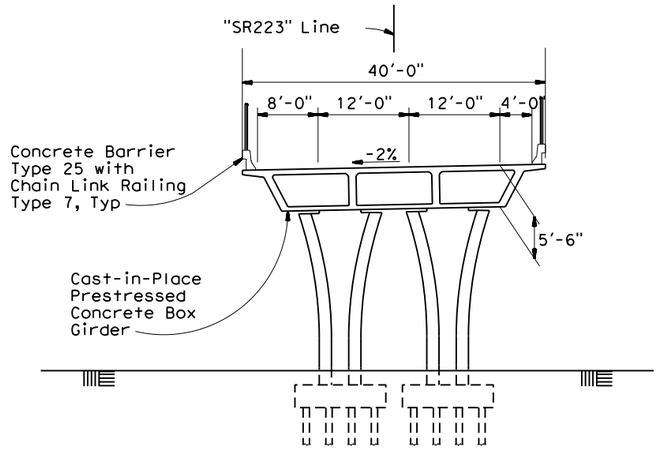
QUINCY ENGINEERING, INC
3247 Ramos Circle
Sacramento, CA 95827 - 2501

Notes:

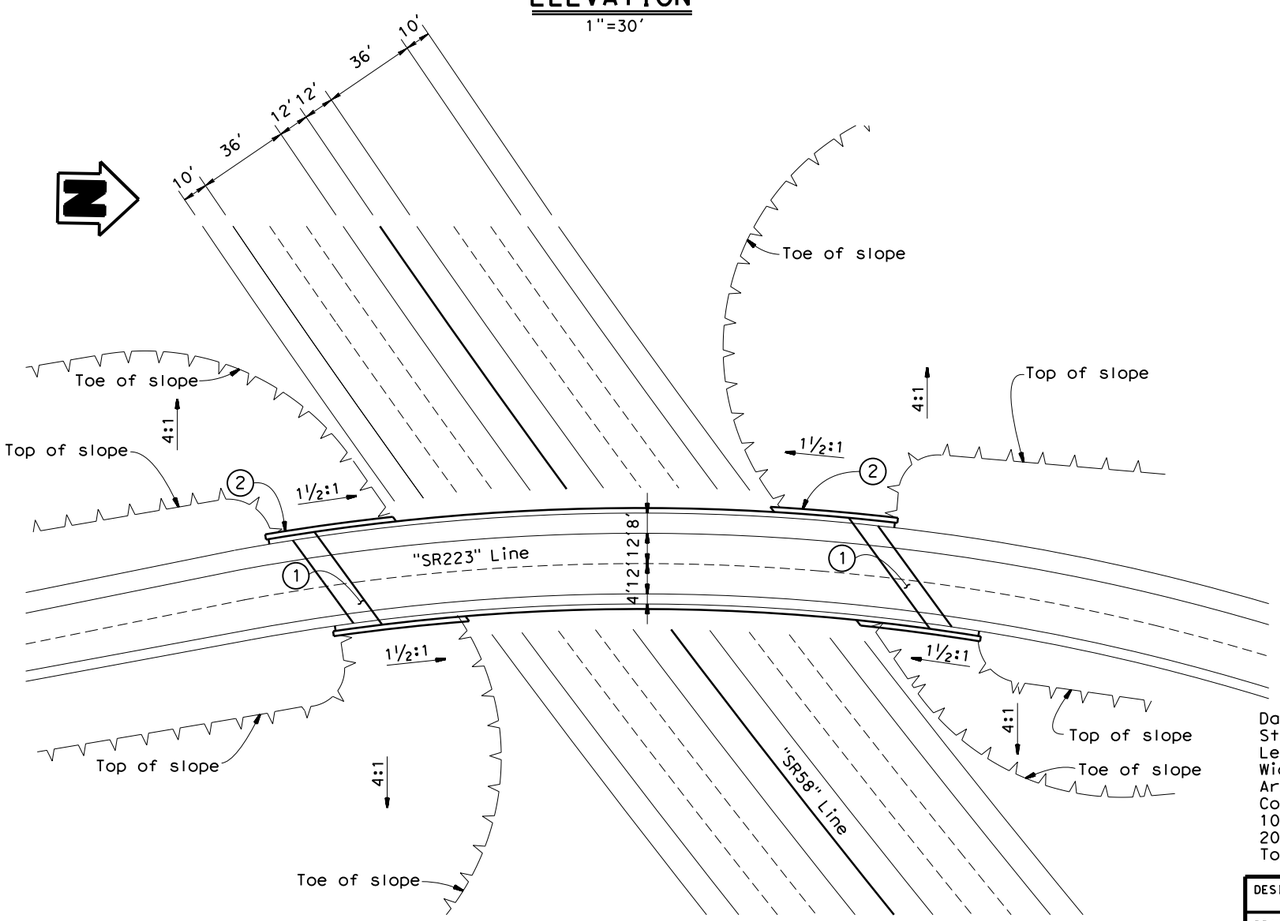
1. Structure Approach Type EQ(10)
2. Full Slope Paving



ELEVATION
1"=30'



TYPICAL SECTION
1"=10'



PLAN
1"=30'

Date of Estimate	05/09/11
Structure Depth	= 5.50
Length	= 210.00
Width	= 40.00
Area (ft2)	= 8,400
Cost / ft2 including 10% Mobilization\ 20% Contingency	= 200.00
Total Cost	= 2,184,000

DESIGNED BY M. Ruble	DATE May 11	Carl H. Gibson, PROJECT ENGINEER	PLANNING STUDY
DRAWN BY M. Ruble	DATE May 11		SR223 - Alt 3
CHECKED BY	DATE		BRIDGE NO. / CU
APPROVED	DATE		SCALE: AS SHOWN / EA

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PREPARED FOR KERN COUNCIL OF GOVERNMENTS

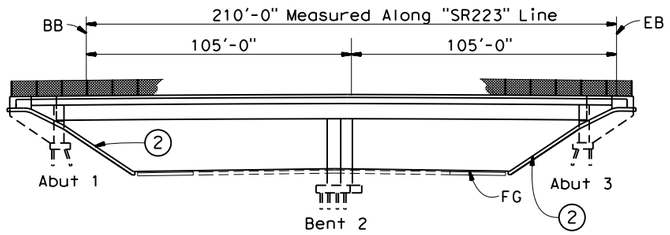
Notes:

(1) Structure Approach Type EQ(10)

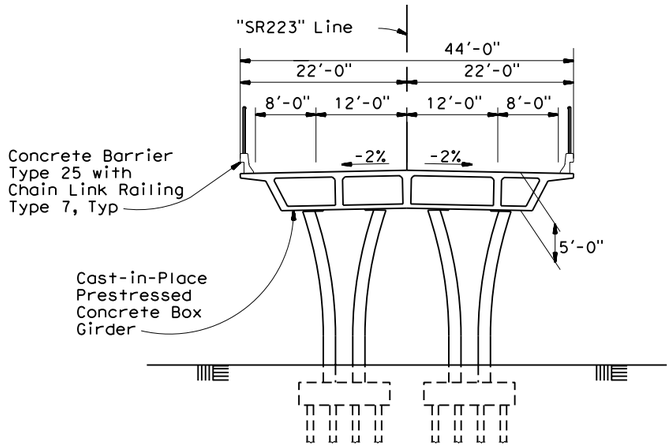
(2) Full Slope Paving

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT
6	Ker	58	76.06

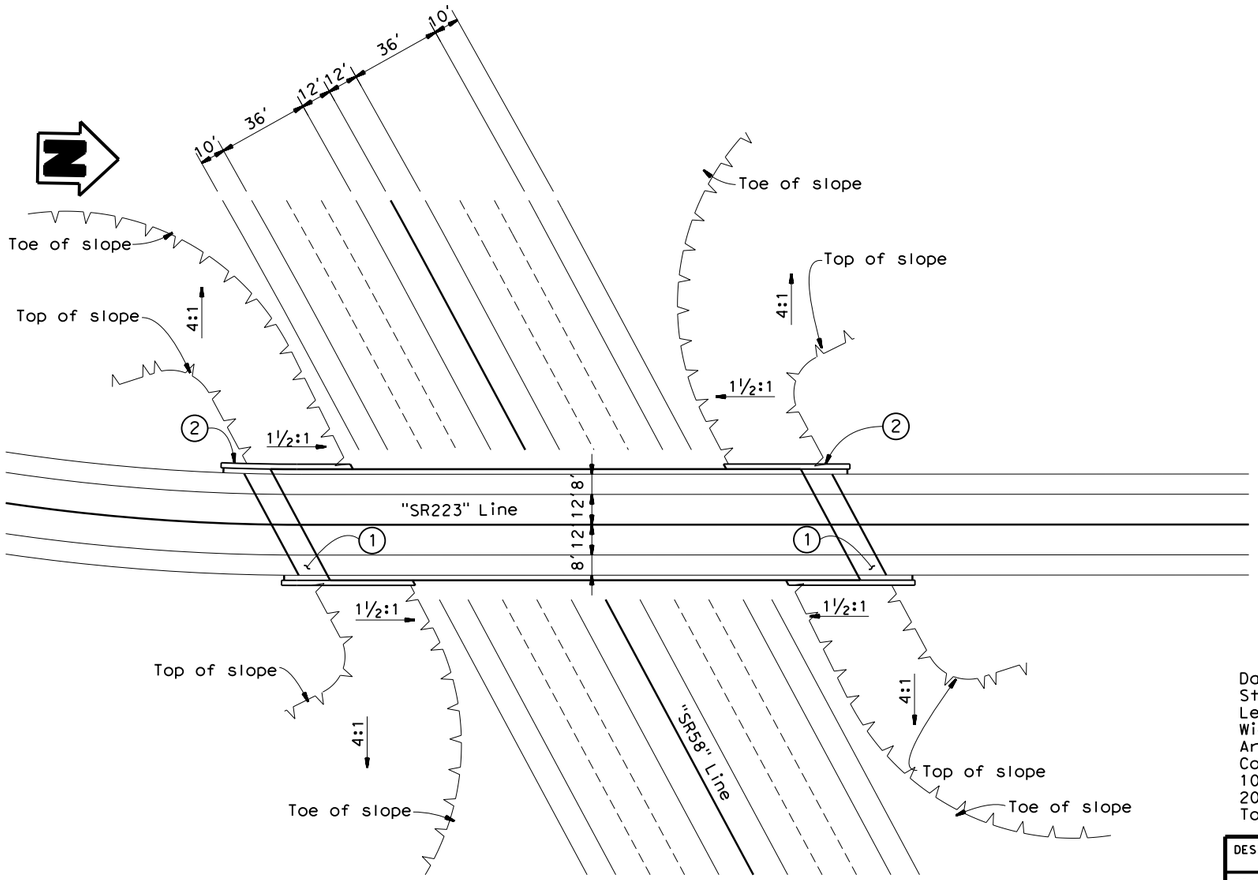
QUINCY ENGINEERING, INC
3247 Ramos Circle
Sacramento, CA 95827 - 2501



ELEVATION
1"=30'



TYPICAL SECTION
1"=10'



PLAN
1"=30'

Date of Estimate	05/09/11
Structure Depth	= 5.00
Length	= 210.00
Width	= 44.00
Area (ft2)	= 9,240
Cost / ft2 including 10% Mobilization\ 20% Contingency	= 200.00
Total Cost	= 2,291,520

DESIGNED BY M. Ruble	DATE May 11	Carl H. Gibson PROJECT ENGINEER	**PLANNING STUDY**
DRAWN BY M. Ruble	DATE May 11		Bealville Rd - Alt 1,2,3
CHECKED BY	DATE		BRIDGE NO. / CU
APPROVED	DATE		SCALE: AS SHOWN / EA

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Kern Council of Governments

Kern Council of Governments

State Highway 58 – 223
Interchange Feasibility Study

Name	Address	Phone	FAX or E-mail for Future Notifications
Christina Montoya	19324 Bitter Valley Rd	823 1725	
Cindy VanBibber	30338 East Bear Mtn Blvd/PO Box 459	661 867-2250	cindy.vanbibber@va.gov
Thomas Tapia	"	"	thomas.tapia@vagov
CHARLES WALTERS	"	"	CHARLES.WALTERS4@VA.GOV
PAUL PINEDA	CALTRANS	661-326-3416	
Susan Wiggins	1370 S. Green St	823-1996	sueswiggins@att.net
Georgette Theotig	P.O. Box 38 (Tech)	661-822-4371	gtheotig@sbcglobal.net
Don Christoleur	6908 Bandolero Way	661-805-3168	dwcpho@gmail.com
Ann Jones	21101 Brentwood (Tech)	661-858-4487	ann.jones3232@gmail
BILL DEAVER	P.O. BOX 999 MOJAVE CA 93501	661 824 8417	WDEAVER@MOJAVE.CA.US
STAN BECKHAM	POB 1353 93581		STAN@STANBECKHAM.COM

Kern Council of Governments

Kern Council of Governments

State Highway 58 – 223
Interchange Feasibility Study

Name	Address	Phone	FAX or E-mail for Future Notifications
Phil Smith	104 West D.	661-822-4806	psmith9@bak.rr.com
David James	115 S. Robinson	(661) 822-2700	djames@tehachapicityhall.com
Claudia Elliott (Tehachapi News)	411 W. Mill	823-6360	celliott@tehachapinews.com
Chris Kirk	115 S. Robinson	661-822-2200 ext 104	ckirk@tehachapicityhall.com

Kern Council
of Governments

Open House
for the
Highway 58/223
Interchange Feasibility Study

May 4, 2011

NAME: Philip Smith
ADDRESS: 104 West D. St.
CITY, ZIP: Tehachapi, CA 93561

Please provide any comments regarding the proposed Intersection Feasiblity Study:

City Councilman - City of Tehachapi
Board Member - KCOG

consideration should be given to providing frontage road between Bealville Rd. & 223 as an alternative to overpass at Bealville Rd.

Your comments are important.
Please drop this form into the comment box at this meeting or
mail it to the address shown on the back of this form.

Please respond by June 10, 2011.

THANK YOU

Kern Council
of Governments

Open House
for the
Highway 58/223
Interchange Feasibility Study

May 4, 2011

NAME: CESAR CONTRERAS
ADDRESS: 30338 E. BEAR MTN BLVD
CITY, ZIP: ARVIN, 93203

Please provide any comments regarding the proposed Intersection Feasiblity Study:

HWY 58 & 223 INTERSECTION IS A VERY DANGEROUS INTERSECTION. THE TRAFFIC GAINS SPEED DOWNHILL HEADING BOTH DIRECTIONS. THE FOG DOES NOT HELP OUT OUR SITUATION. DURING THE WINTER, THE FOG DOES NOT CLEAR UP. W/E GET NUMEROUS COMPLAINTS ON VISIBILITY. MOST OF OUR VISITORS ARE ELDER AS IT IS. I HAVE A HARD TIME LEAVING WORK ON A DAILY BASIS. WE ARE EXPECTING TO GROW WITH OUR NEW FACILITIES THAT HAVE JUST OPENED. WE ASK TO LOOK INTO THIS MATTER VERY SERIOUS, NOT ONLY FOR US BUT OUR FAMILIES & OUR VETERANS. THANK YOU.

Your comments are important.
Please drop this form into the comment box at this meeting or
mail it to the address shown on the back of this form.

Please respond by June 10, 2011.

THANK YOU

Kern Council
of Governments

Open House
for the
Highway 58/223
Interchange Feasibility Study

May 4, 2011

NAME: TONY FELICIANO
ADDRESS: 9518 RAVENWOOD DR
CITY, ZIP: BKFD, CA 93312

Please provide any comments regarding the proposed Intersection Feasiblity Study:
THIS IMPROVEMENT IS TRULY NEEDED. IN THE FOG I HAVE TO ROLL DOWN MY WINDOW AND LISTEN TO SEE IF THERE IS ANY TRAFIC PRIOR TO ENTERING ONTO THE ROAD. WE SERVE AN OLDER POPULATION AT THE NATIONAL CEMETERY WHO HAVE VISION + HEARING ISSUES AND THE EXCHANGE POSES A GREAT HAZARD TO THEM.

Your comments are important.
Please drop this form into the comment box at this meeting or
mail it to the address shown on the back of this form.

Please respond by June 10, 2011.

THANK YOU

Kern Council
of Governments

Open House
for the
Highway 58/223
Interchange Feasibility Study

May 4, 2011

NAME: Cindy VanBibber (Director Bakersfield National Cemetery)
ADDRESS: 2605 Brookside Dr. #198
CITY, ZIP: Bakersfield, CA 93311

Please provide any comments regarding the proposed Intersection Feasiblity Study:

A feasability study of this intersection should not be in question. The intersection at 58/223 is about as treacherous as they come. Not only is there the issue of merging but the fact that traffic on 58 is coming in both directions out of a steep grade tends to contribute to vehicles exceeding the posted speed limits.

The employees and visitors of the Bakersfield National Cemetery put their lives in jeopardy every day that they cross traffic to head back to Bakersfield. As the burial rate increases at the cemetery more and more people will be using this intersection and it's going to affect safety even more dramatically

I've already witnessed the aftermath of two accidents at this intersection and pray there will be no more. It's in your hands, Kern Council of Governments. Do the right thing for the safety and well being of all that travel the roads of Kern County.

Your comments are important.
Please drop this form into the comment box at this meeting or
mail it to the address shown on the back of this form.

Please respond by June 10, 2011.

THANK YOU

SIERRA CLUB

KERN-KAWEAH CHAPTER

May 11, 2011

Interchange Feasibility Study Team
Quincy Engineering
3247 Ramos Circle
Sacramento, CA 95827

Dear Sirs:

The following are the comments of the Kern-Kaweah Chapter, Sierra Club, regarding the Feasibility Study for the Highway 58/223 Interchange:

1) BIOLOGICAL RESOURCES – a) Removal of native of native oaks or other native trees and shrubs must be avoided or minimized. b) Disturbed areas must be re-vegetated with local native plants.

2) 2008 TEJON RANCH CONSERVATION AGREEMENT – We support maintaining the language of the Tejon Ranch Conservation Agreement of 2008 for any portion of this proposed interchange which is included within Tejon Ranch property.

3) SCENIC HIGHWAY DESIGNATION - We support a minimum level of development within this interchange so that possible future designation of SR 58 as a scenic highway is not jeopardized or compromised. Alternative 1, the "diamond" configuration, has the smallest, least intrusive footprint upon a rural, scenic area.

4) COMMERCIAL DEVELOPMENT – We understand that any rezoning /commercial development proposed within or adjacent to this interchange is a Kern County Planning Department issue. However, we would like the Feasibility Study document to record that we oppose any commercial development within or adjacent to this interchange. The introduction of gas stations, restaurants, or other buildings would dramatically alter the current rural and scenic character of this intersection. The glaring lights, signage, and other urban intrusions of commercial development are not compatible with the open space of this portion of Highway 58.

Please send future mailings to the name and address below. We appreciate this opportunity to comment on the proposed Highway 58/223 Interchange.

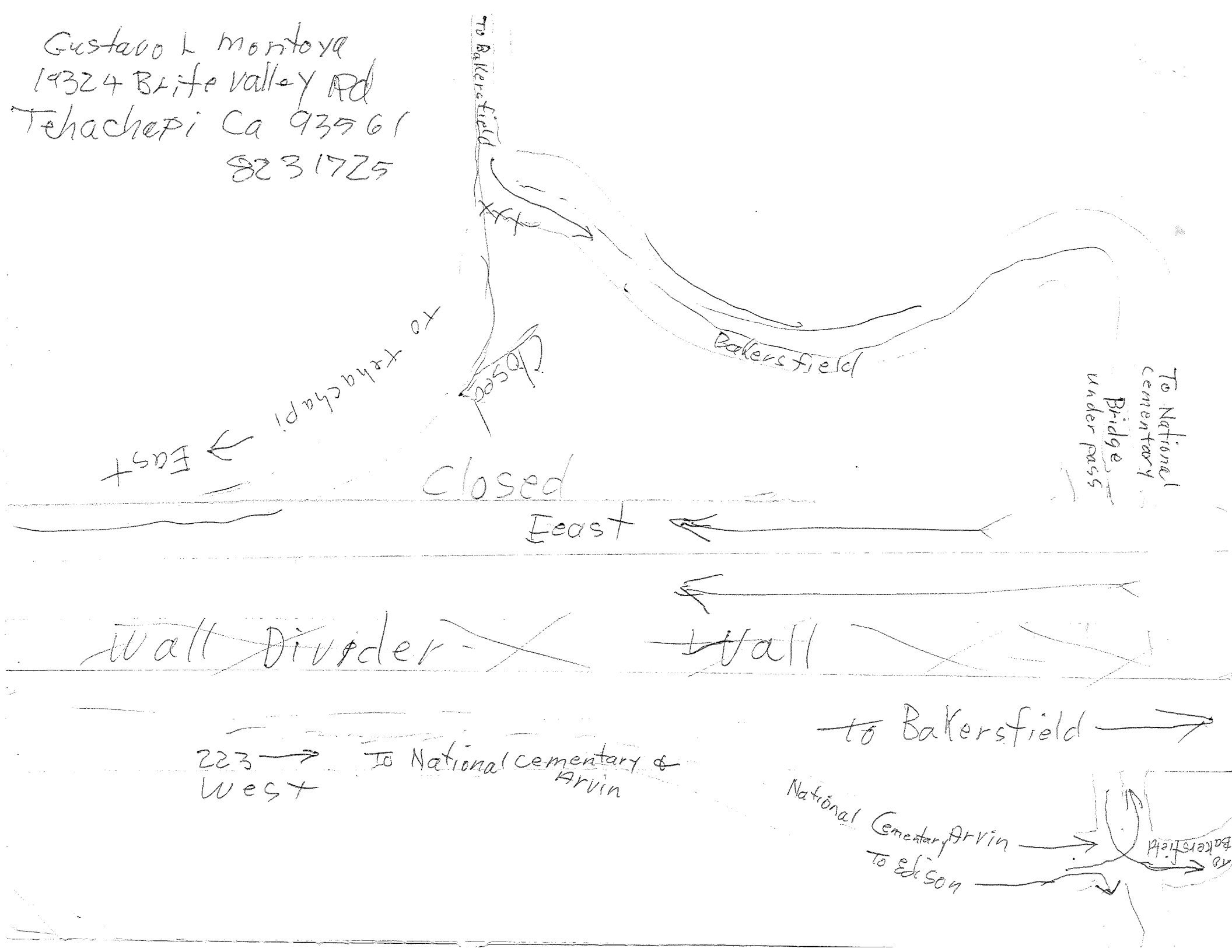
Sincerely,

Georgette Theotig

Georgette Theotig, Chair
Kern-Kaweah Chapter, Sierra Club
P.O. Box 38
Tehachapi, CA 93581

gtheotig@sbcglobal.net

Gustavo L Montoya
19324 Brite Valley Rd
Tehachapi Ca 93561
823725



Propose

Bridge →

To Arvin & National Cemetary

To Bakersfield

East

Blake

divider wall

To Bakersfield West

223 To National Cemetary & Arvin

West

To Bakersfield

Bridge

Edison →

East to Tehachapi

Edison Road
D. wall
dangerous
To national cementary
Left turn
To Bakerfield west
To tehachapi
east
divider
Wall
suicide
Left turn

Attachment G - Project Development Team Roster

Interchange Feasibility Studies PDT Group			
Organization	Name	E-mail Address	Phone #
Caltrans	Christine Cox	christine_cox@dot.ca.gov	(559) 488-4115
Caltrans	Paul Pineda	paul_pineda@dot.ca.gov	(661) 326-3416
Caltrans	Sharri Ehlert	sharri_bender_ehlert@dot.ca.gov	(559) 488-4115
Caltrans	Steven McDonald	steven_mcdonald@dot.ca.gov	(559) 488-4334
Caltrans	Randy Treece	randy_treece@dot.ca.gov	(559) 488-4153
City of Arvin	Alan Christiansen	alanc@arvin.org	(661) 854-3134
City of Bakersfield	Ralph Braboy	Rbraboy@bakersfieldcity.us	(661) 326-3507
City of Bakersfield	Brad Underwood	Bunderwo@bakersfieldcity.us	(661) 326-3725
City of McFarland	Bob Wilburn	bwilburn@mcfarlandcity.org	(661)792-3059
City of McFarland	Pam Hill	phill@mcfarlandcity.org	(661) 792-3091
City of Tehachapi	Greg Garrett	ggarrett@tehachapicityhall.com	(661) 822-2200 x105
County of Kern	Pat Ebel	PATE@co.kern.ca.us	(661) 862-8838
Fehr & Peers	Jason Pack	j.pack@fehrandpeers.com	(951)274-4800
Kern COG	Raquel Pacheco	Pacheco@kerncog.org	(661) 861-2191
Kern COG	Rob Ball	rBall@kerncog.org	(661)861-2191
Kern COG	Ben Raymond	Raymond@kerncog.org	(661)-861-2191
LSA Associates, Inc.	Edward Heming	Edward.Heming@lsa-assoc.com	(916) 630-4600 x126
Quincy Engineering	Brent Lemon	brentl@quincyeng.com	(916) 799-4910
Quincy Engineering	Carl H. Gibson	carlg@quincyeng.com	(916) 368-9181
Tejon Ranch	Dean Brown	dbrown@tejonranch.com	(661) 858-2161 x203
Kern COG	Joe Stramaglia	JStramaglia@kerncog.org	(661) 861-2191
Planning Company Associates, Inc.	Tony Harris	THarris@planningcompany.com	(626) 440-9377
Planning Company Associates, Inc.	Shannon Smith	ssmith@planningcompany.com	(626) 440-9377
Larry Picket Public Relations	Larry Pickett	lpickett@lightspeed.net	(661) 792-3091