



Interchange Feasibility Study

State Route 99 through the City of McFarland



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FINAL

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1. Executive Summary

The Kern Council of Governments (Kern COG), in cooperation with Caltrans, the City of McFarland, and Kern County, has initiated this study to evaluate future interchange needs along State Route 99 (SR 99) through the City of McFarland (See Attachment A). To this end, two master plans or "scenarios" were developed for the project area. Furthermore, a total of twenty-three (23) "Build" alternatives were developed for six interchanges including preliminary geometrics and cost estimates. Based on preliminary feedback from Caltrans, Scenario #1 is the preferred master plan, while Alternatives #3, #6, #9, and #20 are the preferred "Build" alternatives. The preliminary total construction cost estimate for all preferred alternatives is \$189.3 million.

2. Introduction

The existing McFarland interchanges operate with access deficiencies as well as incompatibility with future transportation demands. 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 interchange improvements for up to six interchanges throughout the corridor. This analysis will also include improving and/or realigning SR 99 itself to accommodate the proposed interchange configurations as well as complying with the Caltrans Transportation Concept Plan. To this end, a Project Development Team (PDT) was formed to facilitate the study and 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. It is anticipated that a separate PSR-PDS would be developed for each of the six interchanges.

The Feasibility Study includes analysis of twenty-three (23) “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 \$4.0 million to \$79.2 million. Funding for the project has not yet been identified.

3. Background

Through the project area, SR 99 is a six-lane freeway servicing the primary population centers of the San Joaquin Valley. It is a high-volume interregional north-south 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. Heavily used by interstate travelers, commuters, recreational travelers, and goods movement, SR 99 has an Annual Average Daily Traffic (AADT) of up to 109,000 with trucks constituting up to 29 percent.

According to the 2003 Transportation Concept Report, SR 99 within the project area is designated as a High Emphasis Focus Route on the Interregional Road System (IRRS). SR 99 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 99 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 99 is identified as a Intermodal Corridor of Economic Significance (ICES).

Project Area Description

Currently, SR 99 bisects the City of McFarland with most of the City's government services, schools, and commercial areas falling on the west side. Several interchanges provide partial access to the freeway. For example, Elmo Highway is only accessible from southbound SR 99, while Perkins Avenue is only accessible from the northbound direction. In addition, Sherwood Avenue does not have direct access to northbound direction and instead is linked to Perkins Avenue via a frontage road. The interchanges at both Sherwood and Perkins have a double hook ramp configuration where the local road is realigned. From its original alignment, the local road is redirected through a series of four 90-degree turns (See Attachment B) where it crosses over the freeway and returns to the original alignment. This represents a low speed non-standard design.

Elmo Highway and Sherwood Avenue are served by "hook" ramps from the freeway which are less desirable for high speed exiting movements.

All high school students living east of Highway 99 cross the freeway to attend school. Existing overcrossings provide 5' sidewalks on one side separated from traffic by a tubular railing. One pedestrian-only overcrossing between Perkins and Sherwood is listed in the 2010 SHOPP Cycle to be reconstructed to ADA standards for the Fiscal Year 2013/2014.

Previous Studies

A previous memorandum by Caltrans (dated March 13, 2008) analyzing several McFarland interchange feasibility options was previously completed. Its findings and methodologies were considered in the development of alternatives for this interchange feasibility study.

4. Need and Purpose

The purpose of this interchange feasibility study is to identify improvements for State Route 99 through the City of McFarland which will improve access, pedestrian access, and accommodate future transportation demands.

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

- **System Linkage (Partial Interchange Access)**
Only southbound access exists for Elmo Highway from State Route 99, while only northbound access is available to the Perkins Avenue interchange 0.5 miles to the south. This current access condition is disjoint, indirect, and increases driver confusion.
- **System Linkage (No Direct southbound Access to City Center)**
The City Center is considered to be located on Kern Avenue. As a result, southbound access to the City Center is indirect as vehicles must either exit at Elmo Highway and travel through the City or exit at Sherwood Avenue and "backtrack". This lack of direct and convenient access promotes circuitous travel and makes the current infrastructure unable to reasonable accommodate the highway commercial development which serves as the largest tax generators in the City.

- **Pedestrian Demand Exceeding Capacity**
Currently, State Route 99 bisects the City of McFarland with the City Center located on the west side. A pedestrian overcrossing as well as vehicular overpasses at Elmo Highway, Perkins Avenue, and Sherwood Avenue serve as the only connections between the east and west sides of the City. All of the above mentioned vehicular overcrossings have sidewalks on only one side. It has been observed through field observations that some students choose to walk in the street adjacent to other students within the sidewalk. It is unknown at this time if this is due to the pedestrian demand exceeding the sidewalk capacity, but it is recommended that future phases of this project determine the actual cause so this criterion can be sufficiently evaluated. For the purposes of this report, no safety or capacity deficiency can be confirmed.
- **Growth and Cumulative Impacts**
Based on anticipated growth in the southern portion of McFarland, the Hanawalt and Whisler interchanges are anticipated to require 4-lane overcrossings. In addition, the intersections at the Perkins and Sherwood interchanges require standardization to accommodate future transportation demands.

5. Alternatives Development

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

Project Constraints

Union Pacific Railroad tracks closely parallel SR 99 on the east side. As a result, all alternatives have been developed to avoid acquiring railroad right of way except what may required for the overcrossing itself. This limits the options for northbound SR 99 interchange access to a tight diamond or Single Point Urban Interchange (SPUI) configuration. Some locations such as Sherwood and Perkins do have limited room to accommodate northbound ramps. However, all other locations will require a realignment of SR 99 to the west to accommodate the proposed northbound ramps. This is a common practice for SR 99 interchange improvement projects throughout the San Joaquin Valley.

Development Methodology

Interchange types analyzed were selected based on feedback from Caltrans and PDT members. Design was based on Caltrans' *Highway Design Manual* (Sixth Edition) standards. Each alternative was developed to require no design exceptions except for 2:1 foreslopes on the east side between the ramps and freeway to minimize the amount of freeway realignment.

In the cases of the downtown interchanges (Sherwood, Perkins, and Elmo), alternatives were developed to provide optimal access to the City Center and commercial areas. For the outer interchanges (Whisler, Hanawalt, and North McFarland) strong consideration was given to provide opportunities for commercial development just beyond the ramp intersections.

SR 99 Mainline

Per the 2003 *Transportation Concept Report*, an eight-lane facility is ultimately planned for SR 99 throughout the project area. Unless otherwise noted, all alternatives were developed to accommodate this ultimate facility.

Interchange Spacing

Per Caltrans, the minimum standard urban interchange spacing is 1 mile. As a result, the spacing between Sherwood and Perkins (0.51 miles) as well as Perkins and Elmo (0.53 miles) is non-standard and would have to be corrected by the proposed interchange configurations. This study defines two mutually exclusive scenarios in which this issue would be successfully addressed as follows:

Scenario #1 (See Attachment C) - Both the Elmo Highway and Sherwood interchanges would be reconstructed to provide full access for both directions of SR 99. Interchange access would be completely removed from Perkins.

Scenario #2 (See Attachment D) - The Perkins Avenue interchange would be reconstructed to provide full access for both directions of SR 99. Interchange access would be completely removed from both the Sherwood Avenue and Elmo Highway interchanges. A new interchange (North McFarland Road) would be constructed 1 mile north of Perkins Avenue.

Both the Hanawalt and Whisler interchanges are not affected by the existing interchange spacing restrictions. Therefore, their proposed improvements are valid in either scenario.

Local Street Connectivity

Constructing an interchange at Elmo Highway would require the realignment of Davis Road to provide the necessary 500' of access restrictions. In addition, the North McFarland Interchange would require the extension of Davis Road to provide connectivity to the City Center.

Bicycle and Pedestrian Access

All proposed new overcrossing bridges will include sufficiently wide sidewalks on both sides to accommodate pedestrians travelling to school. Alternatives which do not provide new overcrossing bridges will not provide improved sidewalk capacity.

Transit

A Kern Regional Transit Service stop is located on Sherwood Avenue just west of the interchange and provides express service to Bakersfield. All alternatives with new proposed overcrossing bridges will require relocation of this stop, but it is anticipated that its new location could be near the proposed ramp intersection with no change in its service capabilities. Removal of interchange access from Sherwood Avenue (proposed by Scenario #2) would negatively impact the effectiveness of service from this stop.

Construction Staging

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

6. Railroad Coordination

The Union Pacific Railroad (UPRR) tracks closely parallel SR 99 to the east throughout the project limits. Most alternatives will require a new overcrossing bridge structure over these tracks. While railroad coordination is not required for this interchange feasibility study, it can become a critical path item for future phases. In addition, since railroad standards, permitting requirements, and coordination efforts are unusual in most roadway projects, it is important to define the expected level of effort required for railroad coordination efforts. The following is a summary of the anticipated required efforts and is based on the current governing document for grade separation projects located within Union Pacific Railroad jurisdictions - "BNSF Railway - Union Pacific Railroad Guidelines for Railroad Grade Separation Projects," dated January 24, 2007.

Construction and Maintenance (C & M) Agreement:

Prior to construction of any overhead structure, the applicant is required to execute a C & M Agreement with the railroad, The C & M Agreement is required to include "a funding source, cost estimate, insurance and indemnification requirements, method of payment, responsibility for design, construction, ownership, maintenance and future replacement." The agreement will include the design concept in addition to the above requirements.

Submittals

Design submittals shall include Concept, 30% PS&E and 100% PS&E. Submittals shall include Geotechnical and Drainage Reports in addition to the PS&E.

Design Requirements:

- **Future Track:** At the time the application is made to UPRR, the applicant shall inquire as to the future plans of the railroad and if any reservation shall be made for future track. The design shall take this into consideration and allow for adequate spacing for future track if required.
- **Vertical Clearance:** Temporary minimum vertical clearance of 21 feet (measured from the top of the rail to the obstruction) shall be maintained at all times during construction. The minimum Permanent Vertical clearance shall be 23'-4".
- **Horizontal Clearance:** Temporary minimum horizontal clearance of 12 feet (measured from the centerline of rail to the outside edge of the obstruction) shall be maintained at all times during construction. The minimum permanent horizontal clearance shall be 25 feet.
- **Access Road:** Access roads shall be located and verified at the concept stage. The minimum width shall be 10 feet, and the centerline of the access road shall be a minimum of 20 feet from the centerline of the track.
- **Erosion and Sediment Control:** The plans shall contain the proposed method for erosion and sediment control within the railroad right of way.

California Public Utilities Commission (CPUC)

CPUC approval is required prior to the construction of a new, or the modification of an existing highway-rail crossing.

The two applications are as follows:

- **Formal Application:** The application procedure for a new public road crossing at a railroad is outlined in Rule 3.7 of the CPUC "Rules of Practice and Procedure." The formal application requires Commission action. The formal application process for a non-controversial project will typically take 4 to 12 months for approval from the time of formal submittal.

- General Order 88-B: CPUC GO 88-B allows certain projects (such as the reconstruction projects listed above) to be approved by staff and will typically take less than 45 days for approval.

7. Traffic Analysis

Fehr & Peers has completed the assessment of potential interchanges in McFarland, California. The assessment is based on existing and future travel demand forecasts in the project area and is intended to assist in defining the number of lanes needed for the ultimate project.

First, an overview of existing conditions is presented. Then, the potential alignment alternatives are discussed. Next, the travel demand forecasts in the study area are summarized. Finally, based on the volume forecasts, the appropriate interchange sizing is recommended. It is important to note that this assessment is not intended to serve as the Traffic Report for the Project Study Report (PSR), the Project Report (PR), or for the Environmental Documentation (ED). Additional, more refined forecasting and operations assessment will occur at that time and will incorporate additional coordination with Kern COG, the County, and Caltrans representatives as appropriate.

Existing Conditions

Caltrans' Facilities

SR 99 was completed through the City of McFarland after the core of the City was already developed. This led to SR 99 paralleling the railroad tracks with some unconventional interchanges connecting the two sides of McFarland to each other. Based on traffic counts collected by Caltrans in 2009, SR 99 carries approximately 50,000 average daily trips (ADT) in this area. SR 99 in the study area generally has six lanes (three lanes in each direction). Access to the City of McFarland is provided via interchanges with Sherwood Avenue/1st Street, Perkins Avenue (via slip ramps to a frontage road system), and Elmo Highway (via hook ramps to the frontage road south of Elmo Highway). The Transportation Concept Report for SR 99 was updated in November 2003. As part of that update, the 2025 and ultimate route concept would expand the facility to an eight-lane freeway.

Local Facilities

This study generally addresses the overcrossing sizing of the following potential structure locations:

- Whisler Road
- Hanawalt Avenue
- Sherwood Avenue
- Perkins Avenue
- Elmo Highway
- North McFarland Road

These facilities are described in detail below:

North McFarland Road would be a new roadway with an interchange located approximately 1 mile north of Perkins Avenue. It is included in several analysis alternatives as a new, standard interchange and would provide accessibility to residents and future development in the City of McFarland.

Elmo Highway begins at Wildwood Road and extends eastward, through the City of McFarland, to Quality Road. In the study area, it is a two-lane roadway with limited driveway access points. Perkins Avenue begins at Melcher Road and extends eastward, through the City of McFarland, to Driver Road. When SR 99 was constructed, it bisected Perkins Avenue, which was connected via a horseshoe overcrossing of the freeway. Perkins Avenue is a two-lane roadway in the study area.

Sherwood Avenue begins as SR 43 and extends eastward, through the City of McFarland, to Famoso Road (located southeast of the City). Similar to Perkins Avenue, it was bisected by SR 99 and was connected via a horseshoe overcrossing of the freeway (a mirror image of the Perkins overcrossing). Sherwood Avenue is a two-lane roadway in the study area.

Hanawalt Avenue is a rural, two-lane roadway in the study area that is bisected by SR 99. It has no exiting interchange with SR 99, but some scenarios contemplate a new interchange at this location.

Whisler Road is a two-lane roadway in the study area. It connects to SR 99 via a tight-diamond interchange on for northbound traffic and a partial cloverleaf interchange for southbound traffic. Whisler Road begins at SR 43 and extends eastward, beyond SR 99, terminating at just west of SR-65.

Potential Improvements

Three improvement options have been identified for this area. They consist of the following:

Scenario 1 – Consists of adding northbound ramps at Elmo Highway, removing ramps at Perkins Avenue, adding northbound ramps to Sherwood Avenue, and adding a full interchange at Hanawalt Avenue.

Scenario 2.1 – Consists of adding a full interchange at McFarland Avenue, removing the southbound ramps at Elmo Highway, adding southbound ramps at Perkins Avenue, removing the southbound ramps at Sherwood Avenue, and adding a full interchange at Hanawalt Avenue.

Scenario 2.2 – Similar in nature to Scenario 2.1, except Perkins Avenue and Sherwood Avenue serve as split ramps – e.g. Perkins Avenue has a southbound off-ramp and a northbound on-ramp, and Sherwood Avenue has a southbound on-ramp and a northbound off-ramp.

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 configurations discussed above. The compiled future year model yielded the travel demand forecasts summarized in Table 1.

Table 1 - Future Year (2035) Daily Travel Demand Forecasts

<u>Location</u>	<u>Scenario 1</u>	<u>Scenario 2.1</u>	<u>Scenario 2.2</u>
Whisler Road	19,000	19,600	20,100
Hanawalt Avenue	20,300	20,600	19,700
Sherwood Avenue	5,700	2,300	6,100
Perkins Avenue	5,000	12,100	8,000
Elmo Highway	6,400	1,400	3,000
North McFarland Road	N/A	6,500	10,300
Note: Traffic forecasts based on KernCOG Travel Demand Forecasting Model and are rounded to the nearest 100. Source: Fehr & Peers, 2011.			

Travel Demand Forecasts

To assist with interchange sizing, Fehr & Peers assumed that if the overcrossing carried less than 12,000 ADT, a two-lane overcrossing would operate at an acceptable level. A four-lane overcrossing is assumed to operate acceptably for up-to 24,000 ADT.

Using the above thresholds and the forecasts summarized in Table 1, it is recommended that the Hanawalt Avenue and Whisler Road interchanges be planned as a four-lane overcrossing, while the other overcrossings should operate acceptably as two-lane crossings.

8. Environmental Analysis

Preliminary environmental analysis was completed by LSA Associates, Inc. Environmental resources were evaluated 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.

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

Analysis for the potential for environmental impacts were evaluated by environmental effects and categorized as low, medium, and high as follows:

Table 2

<u>Environmental Effect</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
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

9. Public Outreach

A presentation of the project including the 23 "Build" alternatives was made by Quincy Engineering to the City of McFarland City Council in May 2011. The Council concurred with the scope and direction of study at that time. In addition, a local business owner attended this meeting as well and expressed concern over impacts that the proposed improvements would require.

In lieu of a public meeting, a public information survey was conducted by RM Associates in the Summer of 2011. Information from was collected door-to-door from 32 people in East McFarland to gather public feedback on issues associated with transportation within the City. The results voiced public desire to gain better pedestrian and bicycle access to west McFarland, ADA accessibility, and increase safety for their children walking to school. The results are shown in Attachment E.

10. Right-of-Way

Significant right-of-way would be required for this project with needs varying by alternative. The type of right-of-way acquisition varies from urban developed residential and commercial which is required for the downtown interchanges (Sherwood, Perkins, and Elmo) to farmland and industrial which is common for the outer interchanges (Whisler, Hanawalt, and North McFarland). Recent land value data compiled at the time of this report's preparation was used to estimate the right of way costs.

11. Alternatives Considered

A total of twenty-three (23) alternatives were developed and analyzed in this study as discussed below.

Alternative #1 - Whisler Road Tight Diamond (See Attachment F)

Cost:	\$29.8 million	
Scenario:	1 & 2	
Description:	Construct a Caltrans Type L-1 or "Tight Diamond" interchange at SR99 and Whisler Road including a new four-lane overcrossing structure. The existing freeway and east side ramps will remain as-is, while new ramps on the west side will be constructed. Right of way acquisition of farmland west of the interchange will be required.	
	<u>Advantages</u>	<u>Disadvantages</u>
	<ul style="list-style-type: none"> 1) Compact interchange footprint minimizes cost 2) Anticipated to adequately serve low traffic volumes despite close intersection spacing of ramps 	<ul style="list-style-type: none"> 1) Close intersection spacing between ramps may cause operational deficiencies and the back-to-back left turn lanes could be a potential storage issue when transportation demand increases. 2) Configuration not recommended by Caltrans

Alternative #2 - Whisler Road Spread Diamond (See Attachment F)

Cost:	\$33.8 million	
Scenario:	1 & 2	
Description:	Construct a Caltrans Type L-2 or "Spread Diamond" interchange at SR99 and Whisler Road including a new four-lane overcrossing structure. The existing freeway and east side ramps will remain as-is, while new ramps on the west side will be constructed in the Type L-2 configuration. Right of way acquisition of farmland west of the interchange will be required.	
Advantages		Disadvantages
1) Intersection Spacing adequate for future transportation demand	2) Allows for future construction of loop which would make this identical to Alternative #3	2) Configuration is acceptable Caltrans
		1) More right of way acquisition is required than Alternative #1

Alternative #3 - Whisler Road Partial Cloverleaf (See Attachment F)

Cost:	\$37.3 million	
Scenario:	1 & 2	
Description:	Construct a Caltrans Type L-9 or "Partial Cloverleaf" interchange at SR99 and Whisler Road including a new four-lane overcrossing structure. The existing freeway and east side ramps will remain as-is, while new ramps on the west side will be constructed. This alternative is identical to Alternative #2 except that it also includes a loop ramp from westbound Whisler Road to southbound SR99. Right of way acquisition of farmland west of the interchange will be required.	
Advantages		Disadvantages
1) Provides more capacity than Alternative #2	2) Requires same amount of Right of Way as Alternative #2	3) Configuration is preferred by Caltrans
		1) More expensive than Alternative #2

Alternative #4 - Hanawalt Avenue Tight Diamond (See Attachment F)

Cost:	\$46.5 million	
Scenario:	1 & 2	
Description:	Construct a Caltrans Type L-1 or "Tight Diamond" interchange at SR99 and Hanawalt Avenue including a new four-lane overcrossing structure. Because of the close proximity of the railroad tracks, the freeway will be realigned to the west to accommodate new ramps on the east side. New ramps on both the east and west sides will be constructed in the "Tight Diamond" configuration. Right of way acquisition of farmland west of the interchange will be required.	
Advantages		Disadvantages
1) Compact interchange footprint minimizes cost	2) 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 when transportation demand increases.
		2) Configuration not recommended by Caltrans

Alternative #5 - Hanawalt Avenue Spread Diamond (See Attachment F)

Cost:	\$49.1 million	
Scenario:	1 & 2	
Description:	Construct a Caltrans Type L-2 or "Spread Diamond" interchange at SR99 and Hanawalt Avenue including a new four-lane overcrossing structure. Because of the close proximity of the railroad tracks, the freeway will be realigned to the west to accommodate new ramps on the east side. New ramps on the east side will be constructed in the "Tight Diamond" configuration (Type L-1), while new ramps on the west side will be configured in the "Spread Diamond" configuration (Type L-2). Right of way acquisition of farmland west of the interchange will be required.	
	<u>Advantages</u>	<u>Disadvantages</u>
	<ul style="list-style-type: none"> 1) Intersection Spacing adequate for future transportation demand 2) Allows for future construction of loop which would make this identical to Alternative #6 2) Configuration is acceptable Caltrans 	<ul style="list-style-type: none"> 1) More right of way acquisition is required than Alternative #4

Alternative #6 - Hanawalt Avenue Partial Cloverleaf (See Attachment F)

Cost:	\$51.4 million	
Scenario:	1 & 2	
Description:	Construct a Caltrans Type L-9 or "Partial Cloverleaf" interchange at SR99 and Hanawalt including a new four-lane overcrossing structure. This alternative is identical to Alternative #5 except that it also includes a loop ramp from westbound Hanawalt to southbound SR 99. Right of way acquisition of farmland west of the interchange will be required.	
	<u>Advantages</u>	<u>Disadvantages</u>
	<ul style="list-style-type: none"> 1) Provides more capacity than Alternative #5 2) Requires same amount of Right of Way as Alternative #5 3) Configuration is preferred by Caltrans 	<ul style="list-style-type: none"> 1) More expensive than Alternative #5

Alternative #7 - Sherwood Avenue - Add NB On-Ramp (See Attachment F)

Cost:	\$4.0 million	
Scenario:	1	
Description:	Construct an on-ramp from Sherwood Avenue to northbound SR99. Requires removal of northbound onramp and offramp to Perkins as well as the frontage road connecting Sherwood to Perkins.	
	<u>Advantages</u>	<u>Disadvantages</u>
	<ul style="list-style-type: none"> 1) Very Low Cost 2) Provides full interchange access to City Center via Sherwood which is City's preference 3) Requires no right of way acquisition and does not disrupt existing commercial properties on the west side including McDonald's and Chevron 	<ul style="list-style-type: none"> 1) Not a permanent solution as it cannot accommodate the ultimate 8-lane SR 99 configuration 2) Maintains existing interchange configuration 3) Does not improve pedestrian and bicycle access

Alternative #8 - Sherwood Avenue Tight Diamond (See Attachment F)

Cost:	\$33.6 million	
Scenario:	1	
Description:	Construct a Caltrans Type L-1 or "Tight Diamond" interchange at SR99 and Sherwood Avenue including a new two-lane overcrossing structure. Freeway is already slightly shifted to the west, so no freeway realignment is required. New ramps on both the east and west sides will be constructed in the "Tight Diamond" configuration. Right of way acquisition of urban residential and commercial areas west of the interchange will be required.	
	<u>Advantages</u>	<u>Disadvantages</u>
	<ol style="list-style-type: none"> 1) Compact interchange footprint minimizes cost 2) Provides full interchange access to City Center via Sherwood which is City's preference 	<ol style="list-style-type: none"> 1) Close intersection spacing between ramps is anticipated to cause operational deficiencies and the back-to-back left turn lanes is storage issue when transportation demand increases. 2) Configuration not recommended by Caltrans 3) Requires removal of commercial properties on the west side including McDonald's and Chevron as well as major impacts to McFarland Park

Alternative #9 - Sherwood Avenue Partial Cloverleaf (See Attachment F)

Cost:	\$42.3 million	
Scenario:	1	
Description:	Construct a Caltrans Type L-9 or "Partial Cloverleaf" interchange at SR99 and Sherwood Avenue including a new two-lane overcrossing structure. New ramps on the east side will be constructed in the "Tight Diamond" configuration, while new ramps on the west side will be built in the Type L-9 configuration. Right of way acquisition of urban residential and commercial areas west of the interchange will be required.	
	<u>Advantages</u>	<u>Disadvantages</u>
	<ol style="list-style-type: none"> 1) Intersection Spacing adequate for future transportation demand 2) Provides more capacity than Alternative #8 3) Provides full interchange access to City Center via Sherwood which is City's preference 4) Configuration is preferred by Caltrans 	<ol style="list-style-type: none"> 1) More expensive than Alternative #8 2) Requires more Right of Way than Alternative #8 including McDonald's and Chevron as well as major impacts to McFarland Park

Alternative #10 - Sherwood Avenue Reverse Partial Cloverleaf (See Attachment F)

Cost:	\$36.4 million	
Scenario:	1	
Description:	Construct a Caltrans Type L-8 or "Reverse Partial Cloverleaf" interchange at SR99 and Sherwood Avenue including a new two-lane overcrossing structure. New ramps on the east side will be constructed in the "Tight Diamond" configuration, while new ramps on the west side will be built in the Type L-8 configuration. Right of way acquisition of urban residential and commercial areas west of the interchange will be required.	
	<u>Advantages</u>	<u>Disadvantages</u>
	<ol style="list-style-type: none"> 1) Significant Lower Cost than Alternative #9 2) Lesser Property Impacts 3) Provides full interchange access to City Center via Sherwood Avenue which is City's preference 	<ol style="list-style-type: none"> 1) Configuration is not preferred by Caltrans 2) Requires removal of commercial properties on the west side including McDonald's and Chevron as well as major impacts to McFarland Park

Alternative #11 - Sherwood Avenue Single Point Urban Interchange (See Attachment F)

Cost:	\$73.6 million	
Scenario:	1	
Description:	Construct a Caltrans Type L-13 or "Single Point Urban Interchange" (SPUI) at SR99 and Sherwood Avenue including a new two-lane overcrossing structure which will also accommodate the ramp intersection. Right of way acquisition of urban residential and commercial areas west of the interchange will be required.	
Advantages		Disadvantages
1) Lesser Property Impacts than Alternatives #8, #9, & #10	2) Lesser Property Impacts including no impacts to McFarland Park	3) Provides full interchange access to City Center via Sherwood Avenue which is City's preference
1) High Cost		2) Requires removal of commercial properties on the west side including McDonald's and Chevron

Alternative #12 - Perkins Avenue - Add SB Hook Off-Ramp & On-Ramp(See Attachment F)

Cost:	\$4.0 million	
Scenario:	2	
Description:	Based on previous studies by Caltrans, construct hook on-ramp and off-ramps from southbound SR 99. Requires removal of southbound onramp and offramp to Elmo Highway as well as a portion of the frontage road connecting Sherwood to Perkins. This alternative maintains the existing Perkins overcrossing structures and as a result, the ultimate 8-lane configuration of SR 99 cannot be accommodated.	
Advantages		Disadvantages
1) Very Low Cost	2) Requires only small amount of right of way acquisition	1) Not a permanent solution as it cannot accommodate the ultimate 8-lane SR 99 configuration
		2) maintains existing interchange configuration
		3) Does not improve pedestrian and bicycle access
		4) Provides full interchange access to City Center via Perkins (incidentally removing it from Sherwood) which is not City's preference

Alternative #13 - Perkins Avenue Tight Diamond (See Attachment F)

Cost:	\$33.1 million	
Scenario:	2	
Description:	Construct a Caltrans Type L-1 or "Tight Diamond" interchange at SR99 and Perkins Avenue including a new two-lane overcrossing structure. Freeway is already slightly shifted to the west, so no freeway realignment is required. New ramps on both the east and west sides will be constructed in the "Tight Diamond" configuration. Right of way acquisition of urban residential and commercial areas west of the interchange will be required.	
Advantages		Disadvantages
1) Compact interchange footprint minimizes cost		1) Close intersection spacing between ramps is anticipated to cause operational deficiencies and the back-to-back left turn lanes is storage issue when transportation demand increases.
		2) Configuration not recommended by Caltrans
		3) Significant Property Impacts on west side of interchange
		4) Provides full interchange access to City Center via

	Perkins (incidentally removing it from Sherwood) which is not City's preference
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Alternative #14 - Perkins Avenue Partial Cloverleaf (See Attachment F)

Cost:	\$44.5 million	
Scenario:	2	
Description:	Construct a Caltrans Type L-9 or "Partial Cloverleaf" interchange at SR99 and Perkins Avenue including a new two-lane overcrossing structure. New ramps on the east side will be constructed in the "Tight Diamond" configuration, while new ramps on the west side will be built in the Type L-9 configuration. Right of way acquisition of urban residential and commercial areas west of the interchange will be required.	
	<u>Advantages</u>	<u>Disadvantages</u>
	<ol style="list-style-type: none"> 1) Intersection Spacing adequate for future transportation demand 2) Provides more capacity than Alternative #13 3) Configuration is preferred by Caltrans 	<ol style="list-style-type: none"> 1) More expensive than Alternative #13 2) Greater property Impacts than Alternative #13 3) Provides full interchange access to City Center via Perkins (incidentally removing it from Sherwood) which is not City's preference

Alternative #15 - Perkins Avenue Single Point Urban Interchange (See Attachment F)

Cost:	\$79.2 million	
Scenario:	2	
Description:	Construct a Caltrans Type L-13 or "Single Point Urban Interchange" (SPUI) at SR99 and Perkins Avenue including a new two-lane overcrossing structure which will also accommodate the ramp intersection. Right of way acquisition of urban residential and commercial areas west of the interchange will be required.	
	<u>Advantages</u>	<u>Disadvantages</u>
	<ol style="list-style-type: none"> 1) Lesser Property Impacts than Alternatives #13 & #14 	<ol style="list-style-type: none"> 1) High Cost 2) Provides full interchange access to City Center via Perkins (incidentally removing it from Sherwood) which is not City's preference

Alternative #16 - Perkins Avenue Couplet #1 (See Attachment F)

Cost:	\$8.1 million	
Scenario:	2	
Description:	Construct a Caltrans Type L-5 or "Couplet" configuration at SR99 and Perkins Avenue and Sherwood Avenue. The frontage road on the west side will be converted to one-way traffic and re-paved, while the frontage road on the east side will be reconstructed.	
	<u>Advantages</u>	<u>Disadvantages</u>
	<ol style="list-style-type: none"> 1) Very Low Cost 2) Requires only small amount of right of way acquisition 3) Operationally advantageous as it distributes traffic optimally between the freeway, ramps, and local street network 	<ol style="list-style-type: none"> 1) Not a permanent solution as it cannot accommodate the ultimate 8-lane SR 99 configuration 2) Maintains existing interchange configuration 3) Does not increase pedestrian capacity

Alternative #17 - Perkins Avenue Couplet #2 (See Attachment F)

Cost:	\$73.5 million	
Scenario:	2	
Description:	Construct a Caltrans Type L-5 or "Couplet" configuration at SR99 and Perkins Avenue and Sherwood Avenue. Construct new 2-lane overcrossings at both Perkins and Sherwood. The frontage road on the west side will be realigned and converted to one-way traffic, while the frontage road on the east side will be reconstructed.	
	<u>Advantages</u>	<u>Disadvantages</u>
	<ol style="list-style-type: none"> 1) Accommodated ultimate 8-lane SR 99 configuration 2) Operationally advantageous as it distributes traffic optimally between the freeway, ramps, and local street network 	<ol style="list-style-type: none"> 1) High Cost 2) Greatest Property Impacts on West side of interchange among all alternatives

Alternative #18 - Elmo Highway Tight Diamond (See Attachment F)

Cost:	\$50.2 million	
Scenario:	1	
Description:	Construct a Caltrans Type L-1 or "Tight Diamond" interchange at SR99 and Elmo Highway including a new two-lane overcrossing structure. Because of the close proximity of the railroad tracks, the freeway will be realigned to the west to accommodate new ramps on the east side. New ramps on both the east and west sides will be constructed in the "Tight Diamond" configuration. Right of way acquisition of urban residential and industrial areas west of the interchange will be required.	
	<u>Advantages</u>	<u>Disadvantages</u>
	<ol style="list-style-type: none"> 1) Compact interchange footprint minimizes cost 2) Anticipated to adequately serve low traffic volumes despite close intersection spacing of ramps 	<ol style="list-style-type: none"> 1) Close intersection spacing between ramps may cause operational deficiencies and the back-to-back left turn lanes could be a potential storage issue when transportation demand increases. 2) Configuration not recommended by Caltrans

Alternative #19 - Elmo Highway Spread Diamond (See Attachment F)

Cost:	\$55.0 million	
Scenario:	1	
Description:	Construct a Caltrans Type L-2 or "Spread Diamond" interchange at SR99 and Elmo Highway including a new two-lane overcrossing structure. Because of the close proximity of the railroad tracks, the freeway will be realigned to the west to accommodate new ramps on the east side. New ramps on the east side will be constructed in the "Tight Diamond" configuration (Type L-1), while new ramps on the west side will be configured in the "Spread Diamond" configuration (Type L-2). Right of way acquisition of urban residential and industrial areas west of the interchange will be required.	
	<u>Advantages</u>	<u>Disadvantages</u>
	<ol style="list-style-type: none"> 1) Intersection Spacing adequate for future transportation demand 2) Allows for future construction of loop which would make this identical to Alternative #20 2) Configuration is acceptable Caltrans 	<ol style="list-style-type: none"> 1) More right of way acquisition is required than Alternative #18

Alternative #20 - Elmo Highway Partial Cloverleaf (See Attachment F)

Cost:	\$58.3 million	
Scenario:	1	
Description:	Construct a Caltrans Type L-9 or "Partial Cloverleaf" interchange at SR99 and Elmo Highway including a new two-lane overcrossing structure. This alternative is identical to Alternative #19 except that it also includes a loop ramp from westbound Elmo Highway to southbound SR 99. Right of way acquisition of urban residential and industrial areas west of the interchange will be required.	
Advantages		Disadvantages
1) Provides more capacity than Alternative #19	2) Requires same amount of Right of Way as Alternative #19	3) Configuration is preferred by Caltrans
		1) More expensive than Alternative #19

Alternative #21 - North McFarland Road Tight Diamond (See Attachment F)

Cost:	\$47.5 million	
Scenario:	2	
Description:	Construct a Caltrans Type L-1 or "Tight Diamond" interchange at SR99 and a yet to be constructed North McFarland Road including a new two-lane overcrossing structure. Because of the close proximity of the railroad tracks, the freeway will be realigned to the west to accommodate new ramps on the east side. New ramps on both the east and west sides will be constructed in the "Tight Diamond" configuration. Right of way acquisition of farmland west of the interchange will be required.	
Advantages		Disadvantages
1) Compact interchange footprint minimizes cost	2) 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 when transportation demand increases.
		2) Configuration not recommended by Caltrans

Alternative #22 - North McFarland Road Spread Diamond (See Attachment F)

Cost:	\$51.8 million	
Scenario:	2	
Description:	Construct a Caltrans Type L-2 or "Spread Diamond" interchange at SR99 and a yet to be constructed North McFarland Road including a new two-lane overcrossing structure. Because of the close proximity of the railroad tracks, the freeway will be realigned to the west to accommodate new ramps on the east side. New ramps on the east side will be constructed in the "Tight Diamond" configuration (Type L-1), while new ramps on the west side will be configured in the "Spread Diamond" configuration (Type L-2). Right of way acquisition of farmland west of the interchange will be required.	
Advantages		Disadvantages
1) Intersection Spacing adequate for future transportation demand	2) Allows for future construction of loop which would make this identical to Alternative #23	2) Configuration is acceptable Caltrans
		1) More right of way acquisition is required than Alternative #21

Alternative #23 - North McFarland Road Partial Cloverleaf (See Attachment F)

Cost:	\$55.2 million
Scenario:	2
Description:	Construct a Caltrans Type L-9 or "Partial Cloverleaf" interchange at SR99 and a yet to be constructed North McFarland Road including a new two-lane overcrossing structure. This alternative is identical to Alternative #22 except that it also includes a loop ramp from westbound North McFarland Road to southbound SR 99. Right of way acquisition of farmland west of the interchange will be required.
Advantages	
Disadvantages	
1) Provides more capacity than Alternative #22 2) Requires same amount of Right of Way as Alternative #22 3) Configuration is preferred by Caltrans	1) More expensive than Alternative #22

Alternatives Considered, but rejected

Roundabout intersection were considered, but not selected for additional analysis for this phase. Because roundabouts are typically undesirable for pedestrians and bicycle traffic, it was deemed that they would not fulfill the purpose and need of the project. However, it is possible to study roundabout alternatives in future phases as a variation of the diamond interchange alternatives.

Environmental Impacts

Environmental impacts for each alternative are shown below in Table 3.

Table 3

Potential Issue	Risk Level (“L” = Low, “M” = Medium, “H” = High)																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Air Quality	L	L	L	L	L	L	L	L	L	L	L	L	L	M	M	L	M	M	M	M	L	L	L
Jurisdictional Waters	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Listed Wildlife Species	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Oak Trees	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Community Impacts	L	L	L	L	L	L	L	H	H	H	M	M	M	H	H	M	M	H	H	H	L	L	L
Cultural	L	L	L	H	H	H	L	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
Land Use	L	L	L	M	M	M	L	M	M	M	L	L	L	M	M	M	M	H	H	M	M	M	M
Farmland	L	L	L	H	H	H	L	L	L	L	L	L	L	L	L	L	L	M	M	H	H	H	H
Geology	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Water Quality	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	M	M	M	L	L	L
Noise	L	L	L	M	M	M	L	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Visual	L	L	L	M	M	M	L	M	M	M	M	L	L	M	M	M	M	M	M	M	M	M	M
HazMat	L	L	L	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

Scenario Recommendations

All alternatives for the Whisler and Hanawalt interchanges are viable in both Scenarios #1 and #2. Scenario #1 provides full interchange access at Sherwood and Elmo Highway, while addressing existing non-standard partial interchange configurations at both Sherwood and Elmo Highway. Scenario #2 provides full interchange access at Perkins and the future North McFarland interchange, while removing all access from Sherwood and Elmo Highway.

Based on City feedback, full freeway interchange access at Sherwood Avenue is preferred to Perkins Avenue and would provide optimal access to the City Center. In addition, Sherwood, Perkins, and Elmo Highway are close enough to the City Center (less than 1 mile) to serve as access points from State Route 99. However, the North McFarland interchange is over 1.5 miles away from the City Center and is not connected to the City Center via any direct routes. As a result, Scenario #1 provides two viable access points to the City Center, while Scenario #2 provides only one. As a result, Scenario #1 is the preferred freeway access concept plan within this study segment.

Alternative Recommendations

Based on preliminary feedback from Caltrans, a partial cloverleaf or Type L-9 interchange configuration is preferred for each location. As a result, Alternatives #3, #6, #9, and #20 are the preferred "Build" alternatives. The preliminary total construction cost estimate for all preferred alternatives shown in Scenario #1 would be approximately \$189.3 million.

Location Priority Recommendations

It is anticipated that future phases of project development will need to occur separately for each interchange due to funding constraints. Therefore, it is important to identify a likely scenario of which locations should proceed to the next project development phase in a relative priority order. This order would be subject to change depending on development that would occur within the McFarland community; and funding sources that could be available and implemented for future phases of work. The SR 99 corridor "Scenario #1" provides a frame work to implement the next steps within the project development process.

Based on feedback from the City of McFarland staff, development is anticipated to occur just northeast of the Whisler Road interchange which gives this interchange the greatest likelihood of acquiring viable funding sources. Pending additional analysis of the effectiveness of potential Whisler Interchange improvements, development may cause additional impacts that may require system wide improvements that could involve access improvements at Hanawalt Avenue via a new interchange with State Route 99. Thereafter, the remaining location with the highest likelihood for development (and therefore funding) is northwest of the Elmo Highway Interchange. Based upon these constraints and likely funding sources, it is recommended that the interchanges studied in this report progress into the next stage of project development (Project Study Report) in the following order of priority: Whisler Road, Hanawalt Avenue, Elmo Highway, and Sherwood Avenue. However, it is important to note that funding has not yet been identified to fund any future project development phases of these locations.

12. Funding/Scheduling

For adequate funding to be feasible, it is anticipated that separate funding will be acquired for each interchange. In addition, due to the high cost of interchange improvements, it will be necessary to combine a variety of funding sources to achieve a level adequate to complete all the necessary phases through construction. Possible sources of funding include the State Transportation Improvement Program (STIP), local funding (requires a City-initiated traffic impact fee program), County tax measure, and federal earmark (similar to the TRIP program in Bakersfield). It is not anticipated that Safety Program funding will be eligible for these projects since the accident rates throughout the project area are lower than the Statewide average.

The following schedule assume 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.

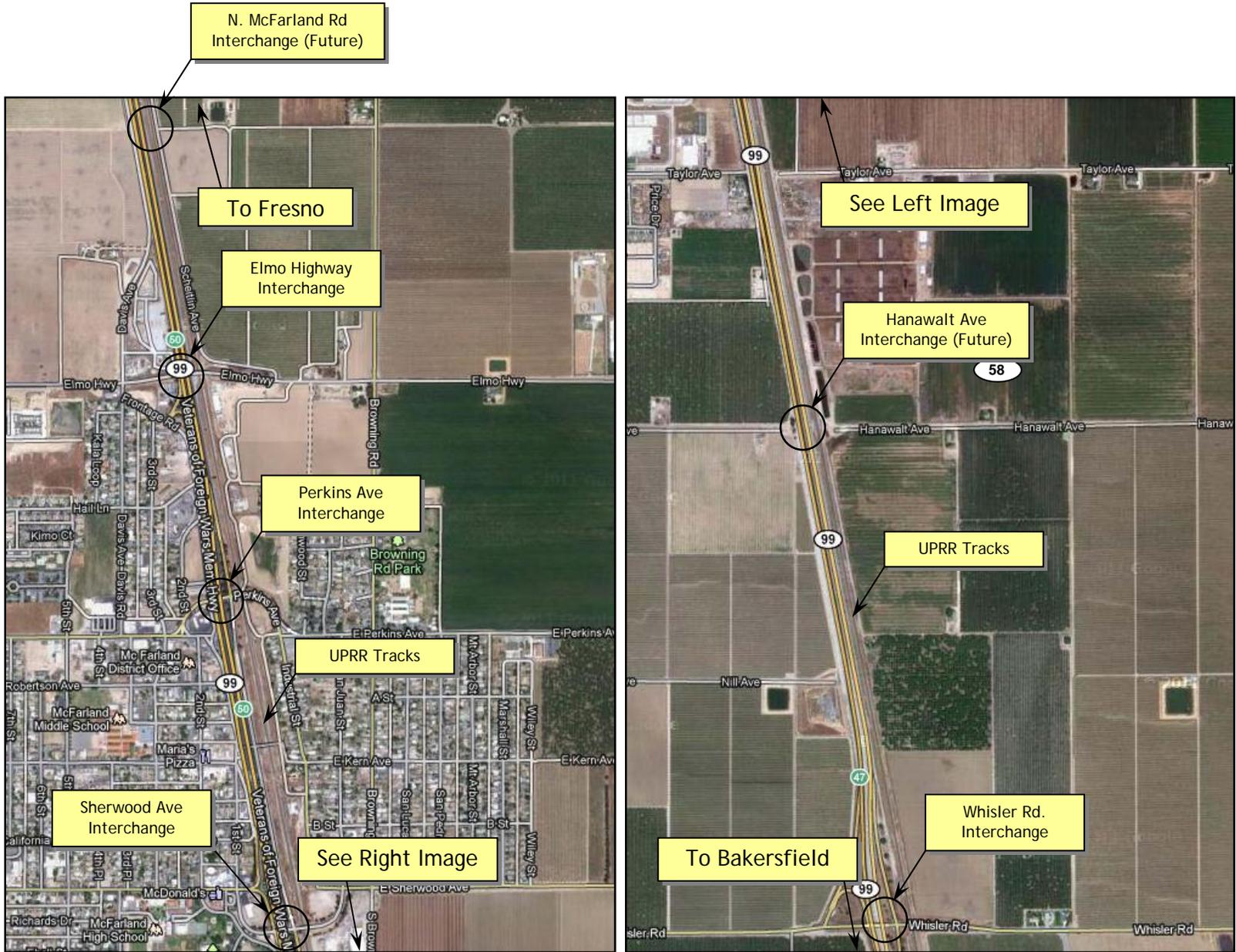
Table 4

Milestone	Tentative Date
Begin Project Study Report	Year 1
Complete Project Study Report	Year 2
Begin Environmental Studies	Year 2
PA&ED	Year 4
Right-of-Way (R/W) Certification	Year 6
Plans, Specifications & Estimate (PS&E)	Year 6
Begin Construction	Year 6
Construction Completed	Year 8

13. List of Attachments

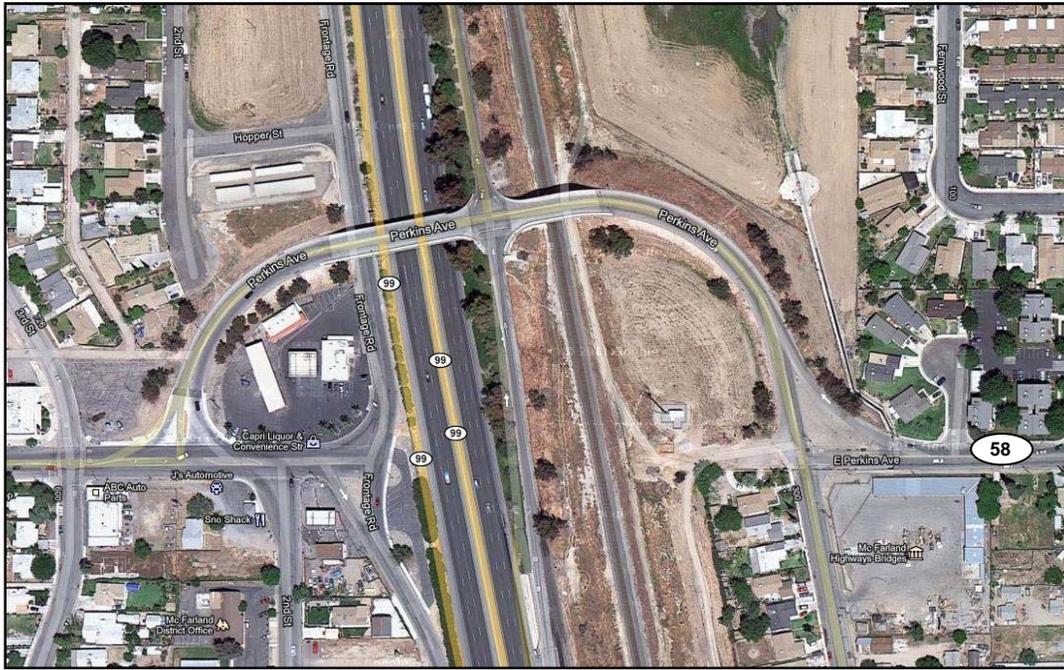
- A. Location Map
- B. Existing Sherwood and Perkins Interchange Configurations
- C. Scenario #1 Interchange Spacing Plan
- D. Scenario #2 Interchange Spacing Plan
- E. Public Outreach Comments
- F. Conceptual Geometrics Exhibits
 - Alternative #1 - Whisler Tight Diamond
 - Alternative #2 - Whisler Spread Diamond
 - Alternative #3 - Whisler Partial Cloverleaf
 - Alternative #4 - Hanawalt Tight Diamond
 - Alternative #5 - Hanawalt Spread Diamond
 - Alternative #6 - Hanawalt Partial Cloverleaf
 - Alternative #7 - Sherwood - Add NB On-Ramp
 - Alternative #8 - Sherwood - Tight Diamond
 - Alternative #9 - Sherwood - Partial Cloverleaf
 - Alternative #10 - Sherwood - Reverse Partial Cloverleaf
 - Alternative #11 - Sherwood - Single Point Urban Interchange
 - Alternative #12 - Perkins - Hook Ramp
 - Alternative #13 - Perkins - Tight Diamond
 - Alternative #14 - Perkins - Partial Cloverleaf
 - Alternative #15 - Perkins - Single Point Urban Interchange
 - Alternative #16 - Perkins - Couplet #1
 - Alternative #17 - Perkins - Couplet #2
 - Alternative #18 - Elmo - Tight Diamond
 - Alternative #19 - Elmo - Spread Diamond
 - Alternative #20 - Elmo - Partial Cloverleaf
 - Alternative #21 - North McFarland - Tight Diamond
 - Alternative #22 - North McFarland - Spread Diamond
 - Alternative #23 - North McFarland - Partial Cloverleaf
- G. Preliminary Cost Estimate
- H. Project Development Team Roster

Attachment A

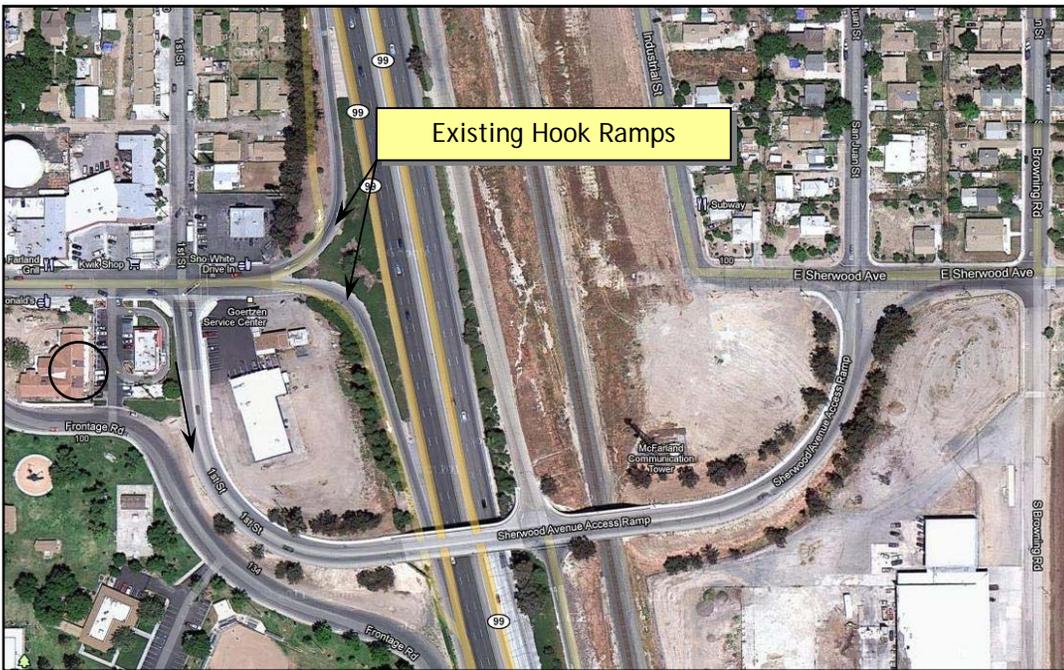


LOCATION MAP

Attachment B

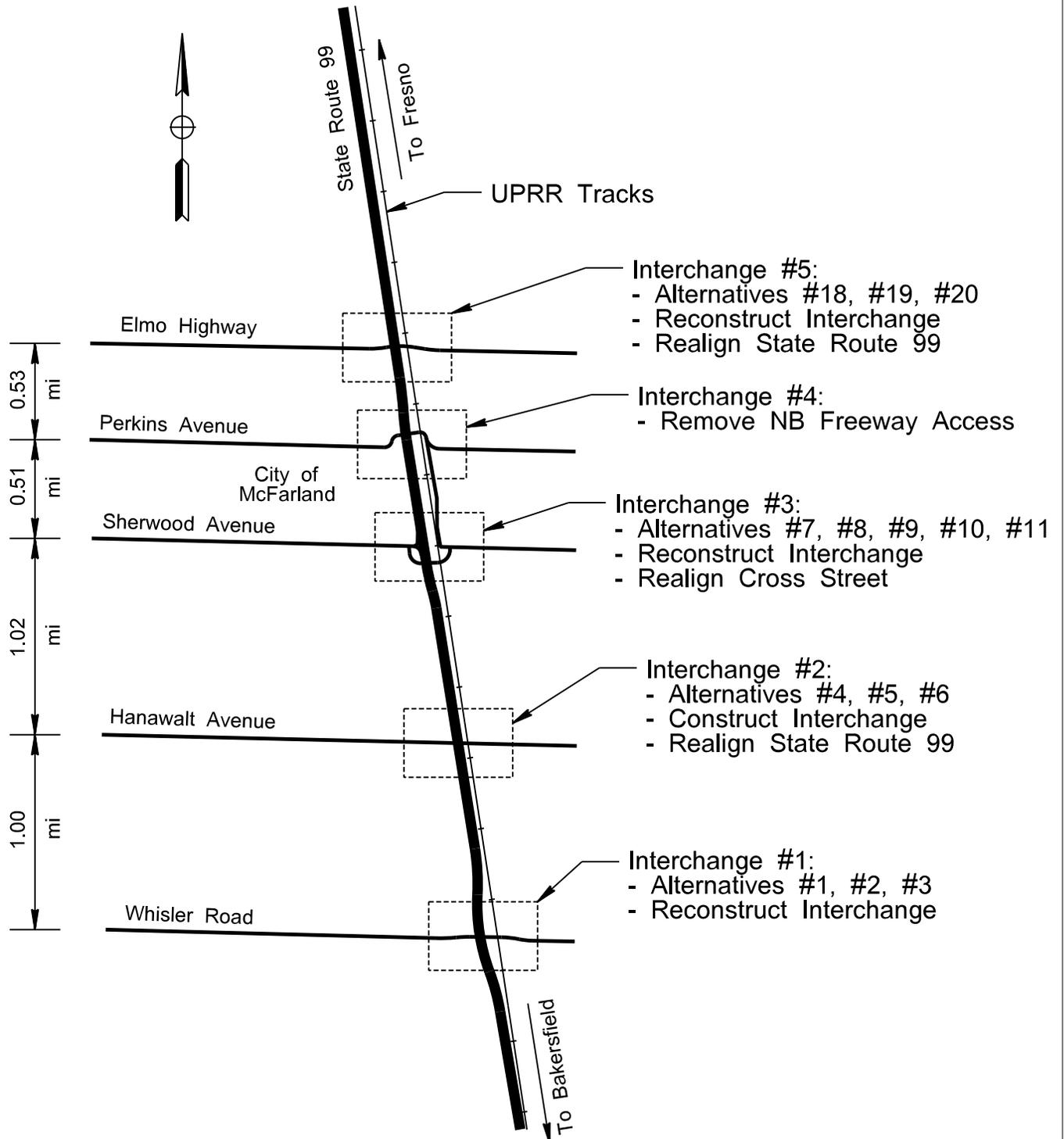


Perkins Avenue Interchange Configuration

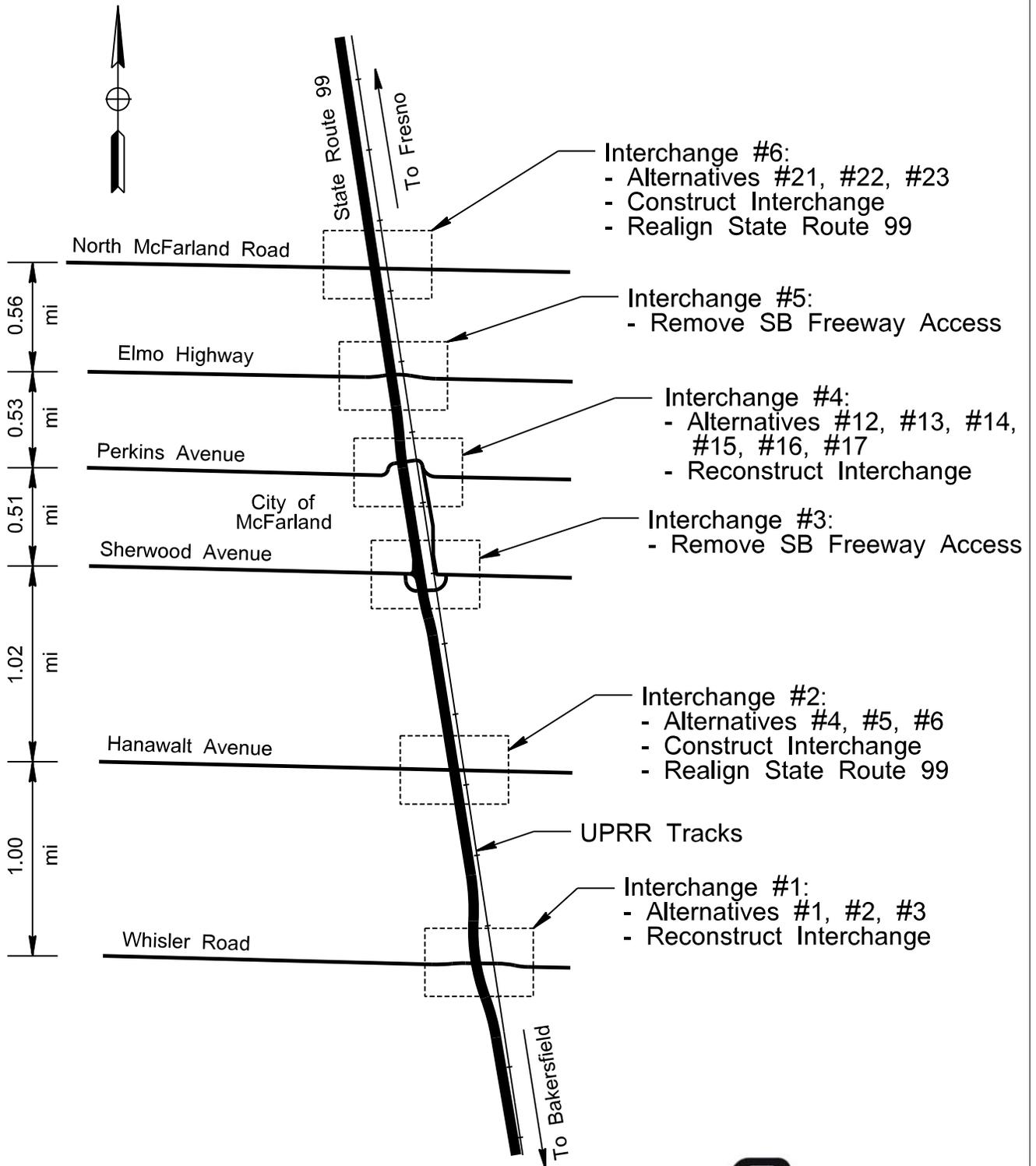


Sherwood Avenue Interchange Configuration

Kern COG Interchange Feasibility Study Exhibit - Scenario #1



Kern COG Interchange Feasibility Study Exhibit - Scenario #2



Attachment E
Public Outreach Comments

McFARLAND FIELD SURVEY

Ruben Moreno from RM Associates conducted the Survey
Robert Croeni assisted.

- I. **August 9, 2011, 1:45 P.M., East Side of McFarland-Northwest Corner of San Juan and Perkins.**
1. **Young lady (Spanish speaking; living in the apartments at NW cor. San Juan & Perkins)**
Statement-- She did not want to participate in the survey.
 2. **Young lady (Spanish speaking; living in the apartments at NW cor. San Juan & Perkins)**
Statement -- There are potholes on Browning Road.
The City needs to slow traffic down in the residential neighborhoods with speedbumps.
When going Northbound the onramp to Highway 99 is fine but when going Southbound it is not.
People on the East side will walk down to the grocery store on this side, the Ranchito Market but will not walk across the 3 overpasses to shop on the West side.
 3. **Middle age man (Spanish speaking; living in the apartments at NW cor. San Juan & Perkins, maintenance man at apartments, working in the parking lot)**
Statement-- Traffic is too fast on Browning Road.
They have complained to the Police Department about it.
People that enter and exit Highway 99 travel real fast.
 4. **Young man (Spanish speaking; living in the apartments at NW cor. San Juan & Perkins, 2 children's bikes in front of his unit.)**
Statement-- He stated that traffic was fine.
Not a lot of adults walk.
 5. **Middle age man (English speaking; living in the apartments at NW cor. San Juan & Perkins)**
Statement-- There are areas that do not have sidewalk and they are needed.
The City will never have money to build them.
 6. **Young lady (Spanish speaking; living on Fernwood Street)**
Statement-- More cleaning of the streets are needed.
A lot of people want the east frontage road (Scheitlin Avenue) along Highway 99 fixed from Elmo Road to Peterson Road.
A lot of people walk it.
They walk all the way to the winery (Peterson Road).
It is one mile up and one mile back.

A lot of people have cars but some don't.

The people on the East side will walk to stores on the East side but not on the West side.

7. A man (Spanish speaking; living on Fernwood Street)

Statement-- A lot of people are walking around.

Adults are riding bikes.

People drive too fast.

A 100 people a day walk on the Frontage Road (Scheitlin Avenue).

We need an on ramp on Elmo Road.

More businesses are needed on the East side.

8. A man (Spanish speaking; living on Fernwood Street)

Statement-- Things are fine the way they are.

He usually drives.

9. An elderly woman (Spanish speaking; living on Fernwood Street)

Statement-- She is usually a passenger.

At her age she is ill and doesn't walk.

She has family or friends drive her around when needed.

10. A woman (Spanish speaking; living on Fernwood Street)

Statement-- Perkins has potholes.

The street light near her house is broken.

She walks the Frontage Road to the winery.

Browning Road Park has soccer games with the men spectators drinking.

A walking path is needed around the Park.

Access to Highway 99 is O.K.

11. Two women, mother & daughter (Spanish speaking; living on Fernwood Street)

Statement-- Browning Road has lots of potholes.

This neighborhood does not have ADA ramps. Her husband fell in his wheelchair.

There are not good restrooms at Browning Road Park.

On ramps and offramps to Highway 99 are O.K.

No street signs for Fernwood.

12. Young lady (Spanish speaking; living on Fernwood Street)

Statement-- sidewalks are needed because people walk with babies and strollers.

She sometimes walks on Perkins and then out into the fields.

Cops stopping workers for infractions but not young people driving fast.

This lady came back to tell us that potholes are a major problem in this area.

13. A young man (English speaking; living on Fernwood Street)

Statement-- Elmo Highway has lots of potholes from Browning to Garzoli.

He would walk if there were more walking paths.

Onramps and offramps to Highway 99 are O.K.

14. A young man (English speaking; living on Brentwood Court)

Statement-- A young man stated that people ride bikes on the local streets. Some people ride on Browning also but you have to be more careful.

He said that people walk their bikes across the overpasses and not ride them across the overpasses.

He said that sometimes he rides his bike over to the new apartments on the West side on Elmo near the gas station.

He let us know how people from this vicinity get to the Frontage Road (Scheitlin Avenue). They walk across Brentwood Court on the future Fernwood street (a dirt surface) and walk on the field roads (dirt surface) to Elmo Highway. At Elmo Highway they walk onto the frontage road instead of crossing over the overpass. People walk on the dirt shoulder because the paved road has so many potholes.

15. Young mother

At the intersection of Wildwood Way and Glenwood Avenue we saw a young mother with her 4 children walking on the sidewalk. We did not engage her in conversation.

II. August 16, 2011, 1:00 P.M., East Side of McFarland-Northwest Corner of Isabel Ct. and Browning.

16. A Young lady (Spanish speaking with children; living on Isabel Court)

Statement—There is speeding on Browning. She will let her children bike in cul-de-sac but not on Browning. Has concerns with the Sherwood on ramp, i.e. convergence of traffic. Struggles with stroller at pedestrian crossing of Highway 99.

17. A Young lady (Spanish speaking; living on Isabel Court)

Statement—Kids playing football and soccer in the streets of San Juan and San Lucas. Driving the overcrossings fine. Walking bridge is dirty. Drunk people under the walking bridge six years ago. Doesn't like walking. Dogs and people bother her (making remarks about her looks). Feels safe in cul-de-sac.

18. A Young lady (English speaking; living on Isabel Court)

Statement – Potholes in the roads need to be fixed. Doesn't feel safe walking at night – not enough lights.

19. A Middle aged woman (Spanish speaking; living on Isabel Court)

Statement – Bikes are very important. Need bike lanes on streets. Friends and family feel the same way. Appreciate ADA ramps and domes. People j-walk and don't use the designated cross walks.

20. A Young lady (Spanish speaking; living on Isabel Court)

Statement -- Only lived here a short time but everything is fine.

21. A Middle aged man (Spanish speaking; living on Maria Court)

Statement -- More work is needed on this side (East side) than the West side.

22. A Young man (English speaking; living on Browning Road)

Statement – Just need to get Browning fixed – potholes and bumps.

23. A Middle aged woman and older man (Daughter-English Speaking and Father – Spanish Speaking living on Browning Road)

Daughter Statement – Need street lights. Close dirt road north of the Browning Park. They speed out when exiting on to Browning, knocked over their mailbox, and sprayed rock on to their cars in their driveway. People park everywhere when the park has 4 soccer games going at once. Browning Road has major traffic from Delano and they do not slow down. Their mailbox is across the street. There is a dip in Browning that needs to be filled.

Father Statement – There are heavy traffic and high speed on Browning. There are dead animals that have been run over. Has complained to the City over the years.

24. A Middle aged man (Spanish speaking; living on Browning Road)

Statement – Browning needs to be repaved. It has heavy traffic, trucks, and noise.

25. A Middle aged woman (Spanish speaking; living on Browning Road)

Statement – They knocked down mailboxes. They travel at high speed on Browning. Perkins offramp used by trucks and then drive up Browning Road to packing sheds.

26. An Old woman (Spanish speaking; living on Glenwood Avenue)

Statement – There are potholes in Browning. Everything else is O.K.

27. A Young man (English speaking; living on Wildwood Way)

Statement – It is a good place to walk around but there is a lot of speeding on Browning Road. He doesn't walk over the freeway and doesn't walk to the store.

28. A Young lady with 3 children (Spanish speaking; living on Wildwood Way)

Statement – Things are pretty calm here. She has only been here for a month. There are crossing guards at Perkins for School.

29. A Middle aged woman (Spanish speaking; living on Wildwood Way)

Statement – She is concerned about Browning Road bumps. Her husband swerved to miss potholes and a City police officer stopped him to ask why he swerved. There are large dogs loose. She doesn't feel safe. School children cross at the park instead of going down to the stop signs at Perkins. She uses dial-a-ride twice a month. Dial-A-Ride takes her to the library and to pay the water bill.

30. An Old man (Spanish speaking; living on Brentwood Court)

Statement – Browning needs to be constructed and Garzoli and Taylor are bad.

31. A Young man (English speaking; living on Wildwood Way)

Statement – He almost lost his eyesight so he can't participate in the survey.

32. A Young lady (Spanish speaking; living on Wildwood Way)

Statement – Trucks exit at Sherwood with big trailers. There are conflicts between kids and trucks. She sometimes uses Dial-A-Ride but has to wait 20 minutes after she calls before they pick her up.

Date, Time, & Area of Survey

Man or Woman Young or Old

Spanish or English speaking

Living where? Apartment or House?

Alternative #1

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 1 & 2
Interchange: Whisler Road
Alternative: Tight Diamond
Construction Cost: \$29.8 Million



Alternative #2

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 1 & 2
Interchange: Whisler Road
Alternative: Spread Diamond
Construction Cost: \$33.8 Million



Alternative #3

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 1 & 2
Interchange: Whisler Road
Alternative: Partial Cloverleaf
Construction Cost: \$37.3 Million



Alternative #4

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 1 & 2
Interchange: Hanawalt Avenue
Alternative: Tight Diamond
Construction Cost: \$46.5 Million

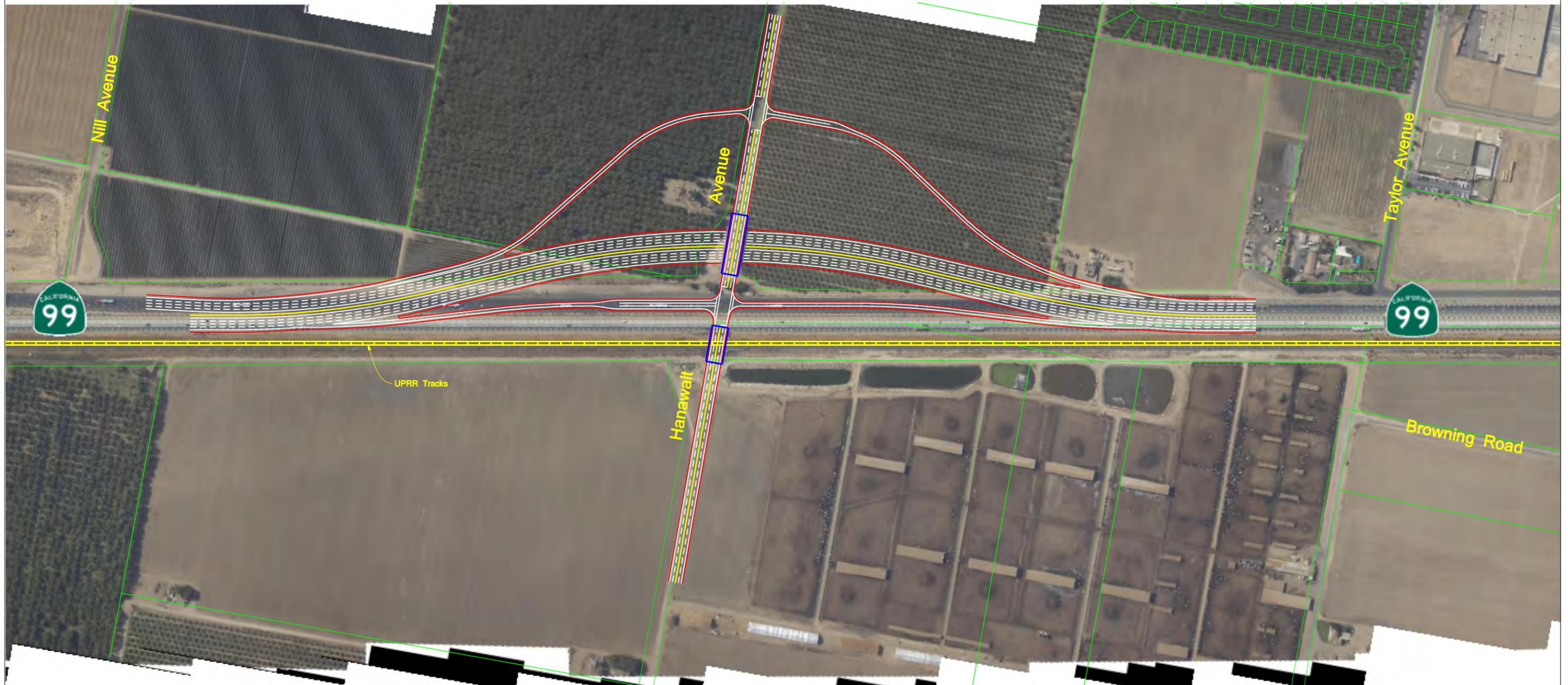


Alternative #5

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 1 & 2
Interchange: Hanawalt Avenue
Alternative: Spread Diamond
Construction Cost: \$49.1 Million



Alternative #6

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 1 & 2
Interchange: Hanawalt Avenue
Alternative: Partial Cloverleaf
Construction Cost: \$51.4 Million



Alternative #7

Interchange Feasibility Study Kern COG



Scale: 1"=400'

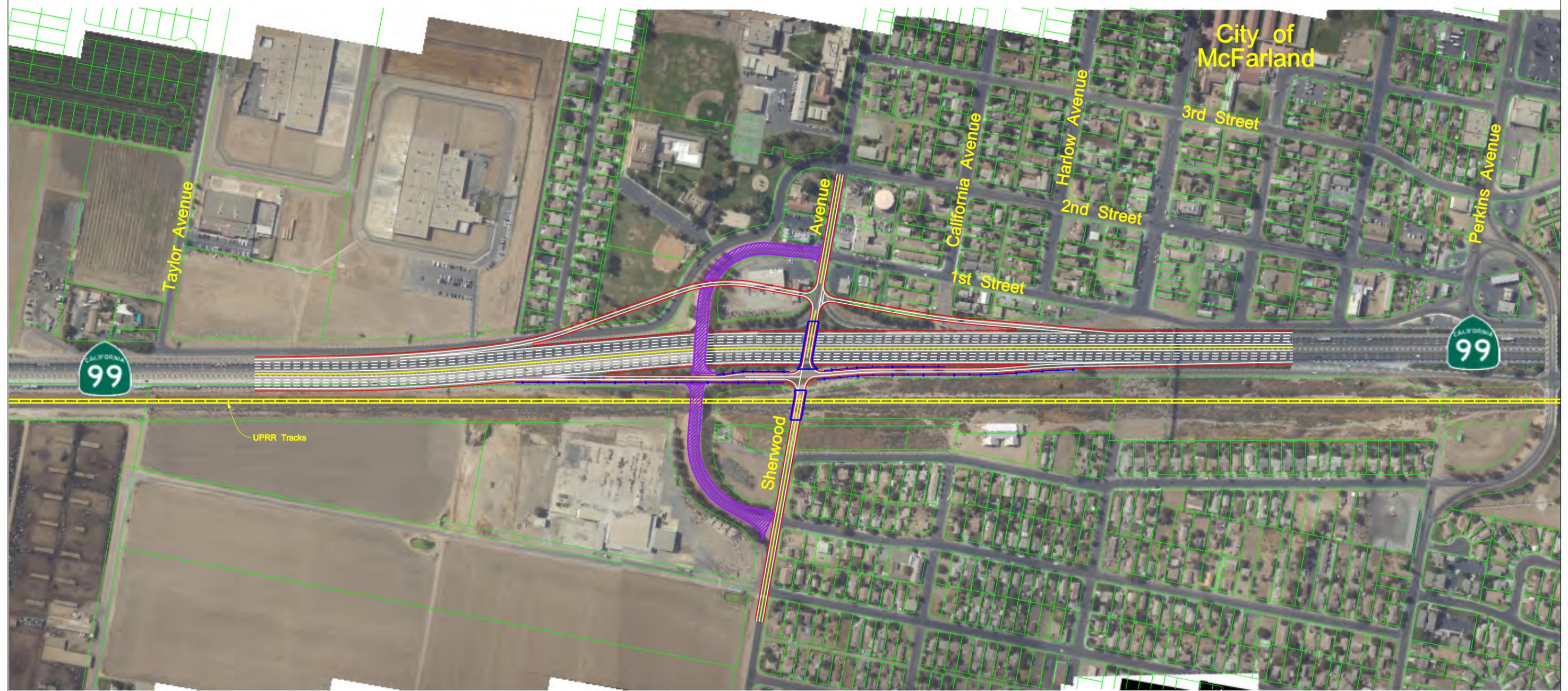
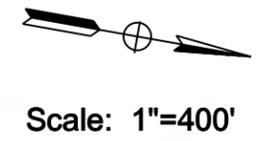


Scenario: 1
Interchange: Sherwood Avenue
Alternative: Add NB-On Ramp
Construction Cost: \$4.0 Million



Alternative #8

Interchange Feasibility Study Kern COG



Scenario: 1
Interchange: Sherwood Avenue
Alternative: Tight Diamond
Construction Cost: \$33.6 Million

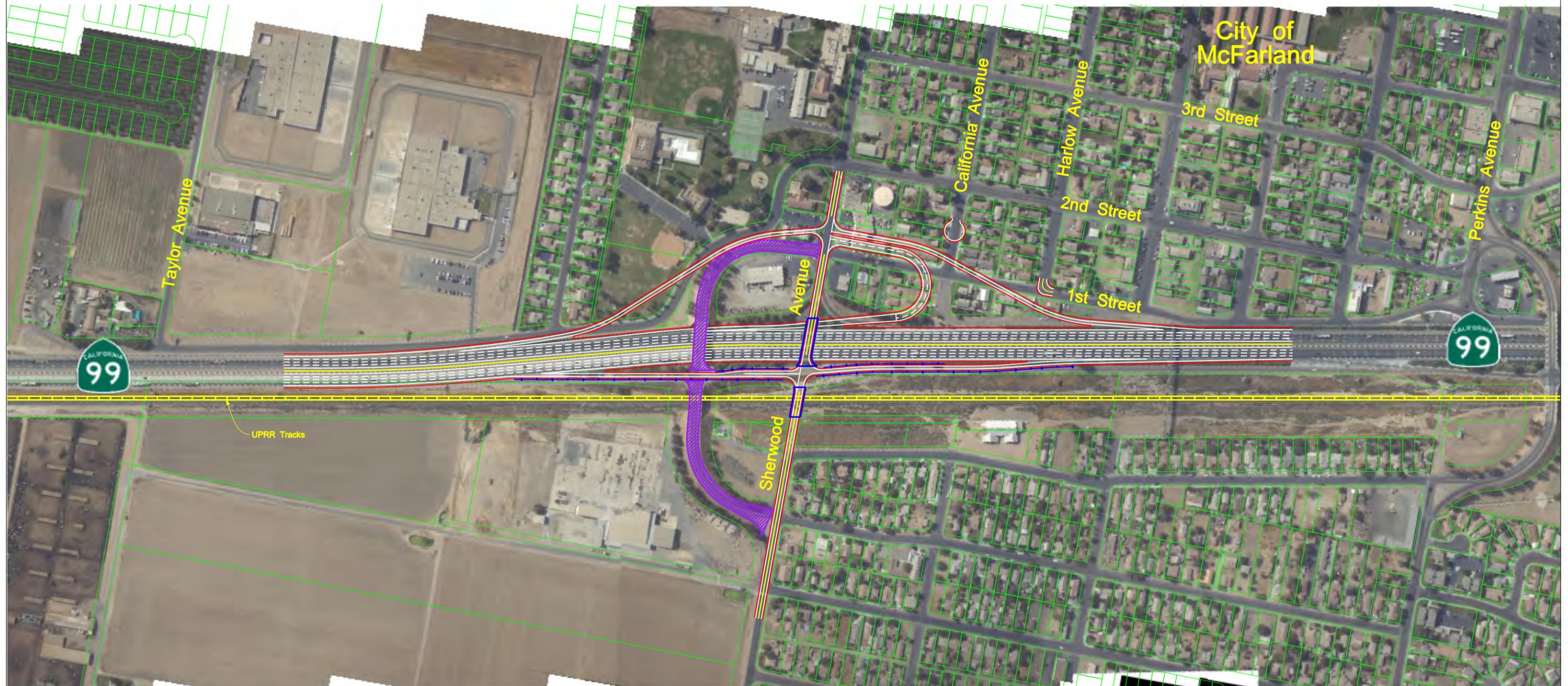


Alternative #9

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 1
Interchange: Sherwood Avenue
Alternative: Partial Cloverleaf
Construction Cost: \$42.3 Million

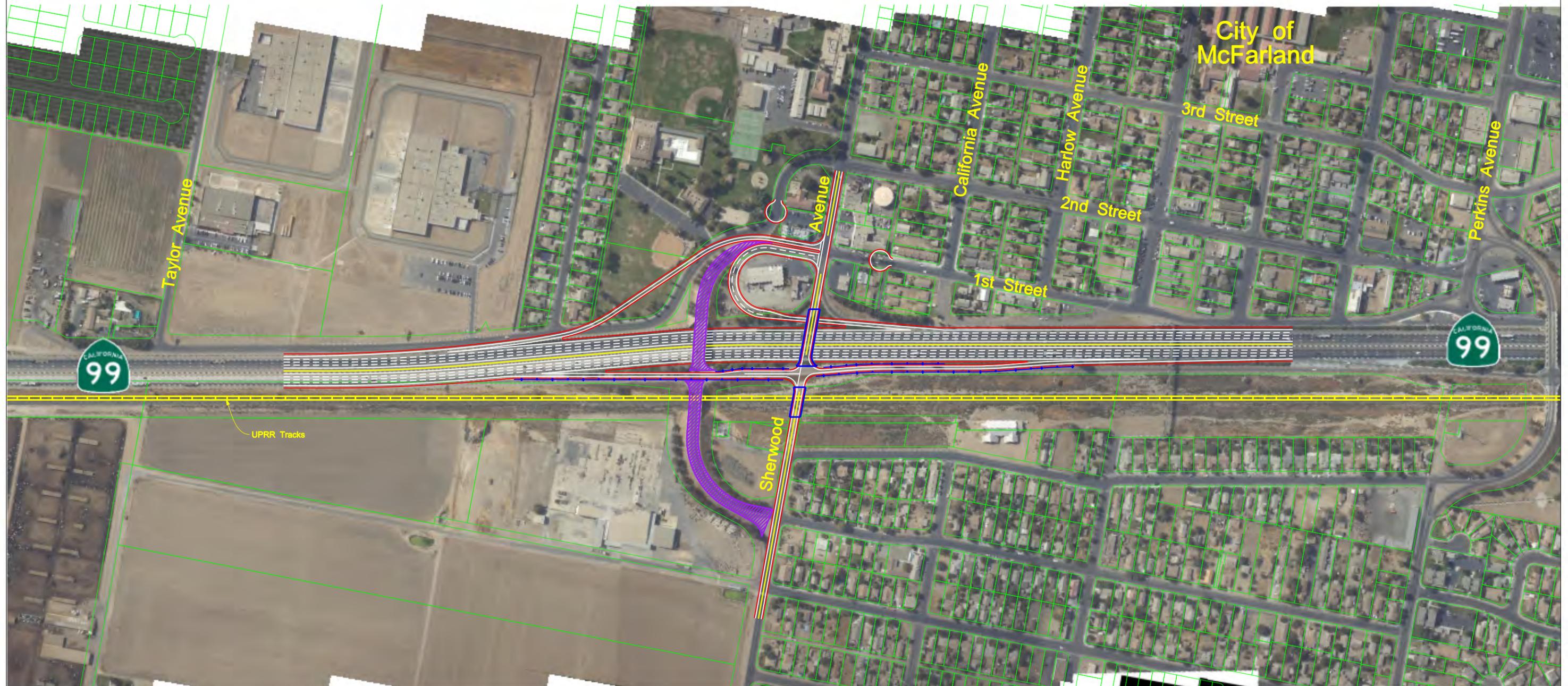


Alternative #10

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 1
Interchange: Sherwood Avenue
Alternative: Reverse Partial Cloverleaf
Construction Cost: \$36.4 Million



Alternative #11

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 1
Interchange: Sherwood Avenue
Alternative: Single Point Urban Interchange
Construction Cost: \$73.6 Million



Alternative #12

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 2
Interchange: Perkins Avenue
Alternative: Hook Ramps
Construction Cost: \$4.0 Million



Alternative #13

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 2
Interchange: Perkins Avenue
Alternative: Tight Diamond
Construction Cost: \$33.1 Million

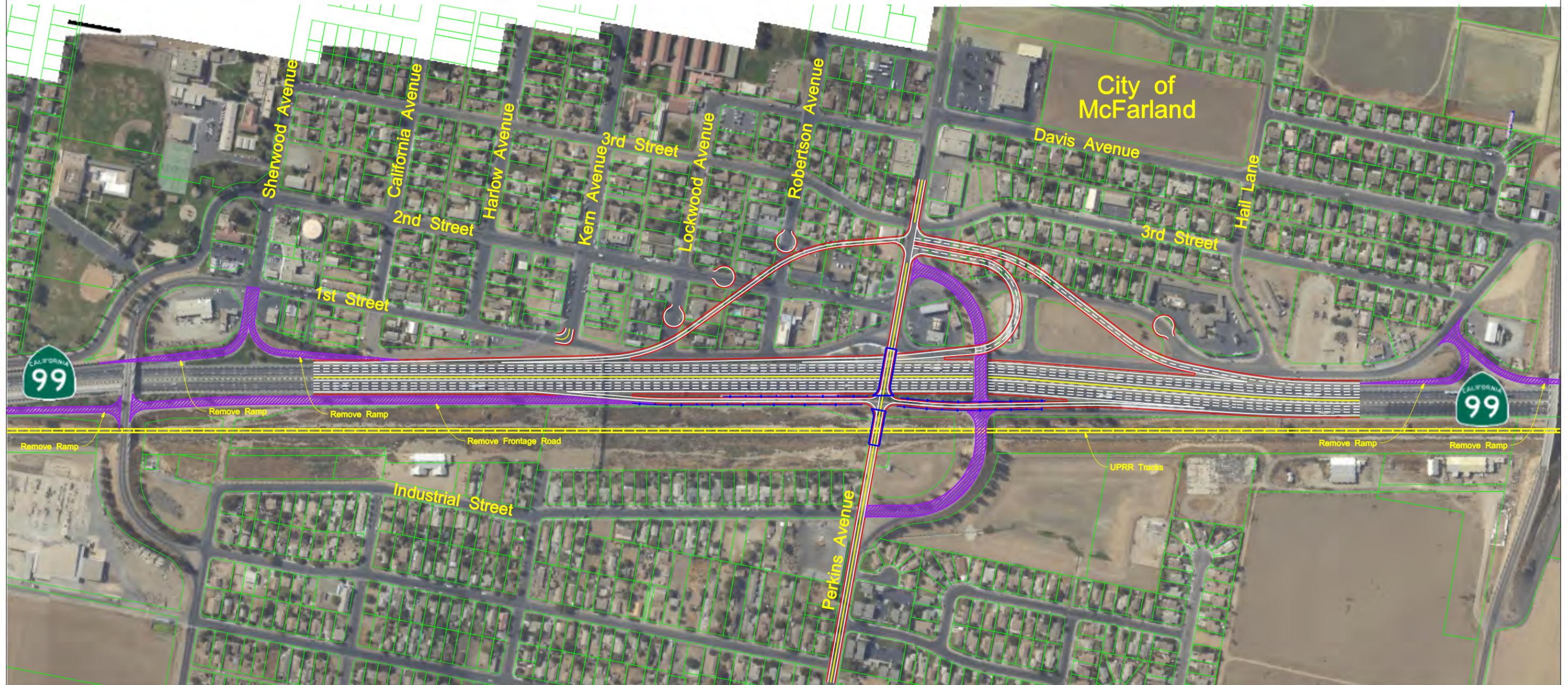


Alternative #14

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 2
Interchange: Perkins Avenue
Alternative: Partial Cloverleaf
Construction Cost: \$44.5 Million



Alternative #15

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 2
Interchange: Perkins Avenue
Alternative: Single Point Urban Interchange
Construction Cost: \$79.2 Million



Alternative #16

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 2
Interchange: Perkins Avenue
Alternative: Couplet #1
Construction Cost: \$8.1 Million



Alternative #17

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 2
Interchange: Perkins Avenue
Alternative: Couplet #2
Construction Cost: \$73.5



Alternative #18

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 1
Interchange: Elmo Highway
Alternative: Tight Diamond
Construction Cost: \$50.2 Million



Alternative #19

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 1
Interchange: Elmo Highway
Alternative: Spread Diamond
Construction Cost: \$55.4 Million



Alternative #20

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 1
Interchange: Elmo Highway
Alternative: Partial Cloverleaf
Construction Cost: \$58.3 Million



Alternative #21

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 2
Interchange: North McFarland Road
Alternative: Tight Diamond
Construction Cost: \$47.5 Million

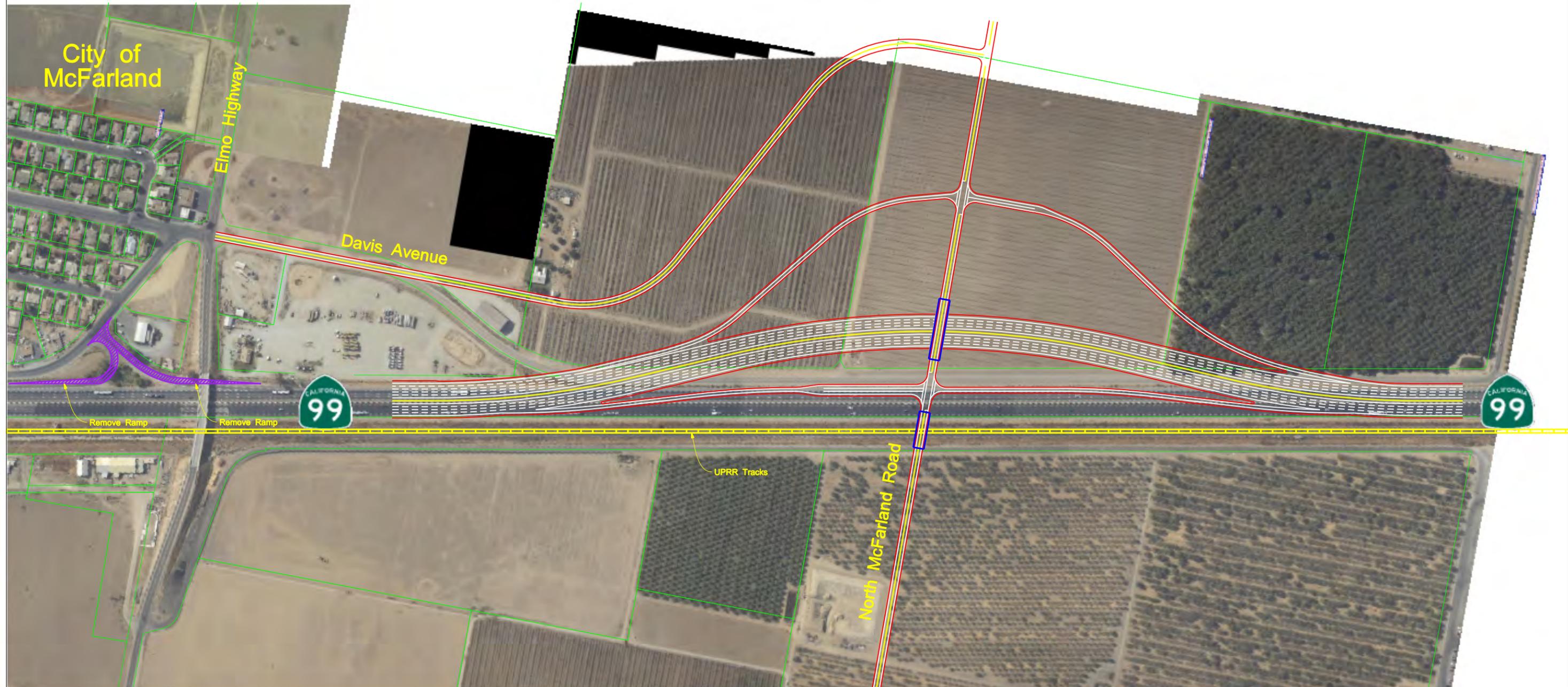


Alternative #22

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 2
Interchange: North McFarland Road
Alternative: Spread Diamond
Construction Cost: \$51.8 Million



Alternative #23

Interchange Feasibility Study Kern COG



Scale: 1"=400'



Scenario: 2
Interchange: North McFarland Road
Alternative: Partial Cloverleaf
Construction Cost: \$55.2 Million



SR 99 - McFarland Alternative Cost Estimate Summary

10/28/2011

Alternative	Location	Alternative	Cost
1	Whisler Road	Tight Diamond	\$29,800,000
2		Spread Diamond	\$33,800,000
3		Partial Cloverleaf	\$37,300,000
<hr/>			
4	Hanawalt Avenue	Tight Diamond	\$46,500,000
5		Spread Diamond	\$49,100,000
6		Partial Cloverleaf	\$51,400,000
<hr/>			
7	Sherwood	Add NB On-Ramp	\$4,000,000
8		Tight Diamond	\$33,600,000
9		Partial Cloverleaf	\$42,300,000
10		Reverse Partial Cloverleaf	\$36,400,000
11		Single Point Urban Interchange (SPUI)	\$73,600,000
<hr/>			
12	Perkins	Hook Ramps	\$4,000,000
13		Tight Diamond	\$33,100,000
14		Partial Cloverleaf	\$44,500,000
15		Single Point Urban Interchange (SPUI)	\$79,200,000
16		Couplet #1	\$8,100,000
17		Couplet #2	\$73,500,000
<hr/>			
18	Elmo	Tight Diamond	\$50,200,000
19		Spread Diamond	\$55,400,000
20		Partial Cloverleaf	\$58,300,000
<hr/>			
21	North McFarland	Tight Diamond	\$47,500,000
22		Spread Diamond	\$51,800,000
23		Partial Cloverleaf	\$55,200,000
<hr/>			

Preliminary Estimate of Construction Costs

06-KER-99, PM 47.37

PROJECT DESCRIPTION:

Whisler Road Interchange

Limits:

Proposed Improvement (Scope): Construct Interchange:
1) Construction of Whisler Road overcrossing over SR-99
2) Railroad Overcrossing
3) Construction of NB/SB On/Off-Ramps in a Type L-1 ("Tight Diamond") configuration

Alternative: Tight Diamond Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ 20,190,000
TOTAL STRUCTURE ITEMS	\$ 7,248,800
SUBTOTAL CONSTRUCTION COSTS	\$ 27,438,800
TOTAL RIGHT OF WAY ITEMS	\$ 2,344,015
TOTAL ALTERNATIVE COST	\$ 29,782,815

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	9,625	CY	\$ 20.00	\$ 192,498
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	214,304	CY	\$ 25.00	\$ 5,357,606

Subtotal Earthwork \$ 5,850,104

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	381,661	SF	\$ 10.00	\$ 3,816,610

Subtotal Pavement Structural Section \$ 3,816,610

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000

Subtotal Drainage \$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	-	LF	\$ 20.00	\$ -
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	\$ 355,000

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	18,114	LF	\$ 30.00	\$ 543,420
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
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	45,182	LF	\$ 2.00	\$ 90,364
			Subtotal Traffic Items Section	\$ 1,983,784

TOTAL SECTIONS 1 thru 5 \$ 12,655,498

Section 6. Minor Items

\$ 12,655,498 x (10%) = \$ 1,265,550
(Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 1,265,550

Section 7. Roadway Mobilization

\$ 13,921,047 x (10%) = \$ 1,392,105
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 1,392,105

Section 8. Roadway Additions

Supplemental Work
\$ 13,921,047 x (10%) = \$ 1,392,105
(Subtotal Sections 1 thru 6)

Contingencies
\$ 13,921,047 x (25%) = \$ 3,480,262
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 4,872,367

TOTAL ROADWAY ITEMS \$ 20,185,519

(Subtotal Sections 1 thru 8)

SAY \$ 20,190,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>
Bridge Name	SR99	Railroad
Structure Type	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	68.00	68.00
Length - (ft)	260.00	150.00
Total Area -(ft ²)	17,680.00	10,200.00
Footing Type (pile/spread)	Pile	Pile
Cost per ft ²	\$200	\$200
Bridge (cost)	\$ 3,536,000	\$ 2,040,000
Contingency (20%)	\$707,200	\$408,000
Mobilization (10%)	\$353,600	\$204,000
Total Cost For Structure	\$ 4,596,800	\$ 2,652,000

Subtotal Structures Items \$ 7,248,800
(Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -
		\$ -
	Subtotal Railroad Items	\$ <u>-</u>

TOTAL STRUCTURES ITEMS \$ 7,248,800
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 1,844,015
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ <u>2,344,015</u>

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. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 47.37

PROJECT DESCRIPTION:

Whisler Road Interchange

Limits:

Proposed Improvement (Scope): Construct Interchange:
1) Construction of Whisler Road overcrossing over SR-99
2) Railroad Overcrossing
3) Construction of NB/SB On/Off-Ramps in a Type L-2 ("Spread Diamond") configuration

Alternative: Spread Diamond Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ 21,540,000
TOTAL STRUCTURE ITEMS	\$ 7,690,800
SUBTOTAL CONSTRUCTION COSTS	\$ 29,230,800
TOTAL RIGHT OF WAY ITEMS	\$ 4,472,950
TOTAL ALTERNATIVE COST	\$ 33,703,750

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	9,625	CY	\$ 20.00	\$ 192,498
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	246,018	CY	\$ 25.00	\$ 6,150,447

Subtotal Earthwork \$ 6,642,945

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	390,458	SF	\$ 10.00	\$ 3,904,580

Subtotal Pavement Structural Section \$ 3,904,580

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000

Subtotal Drainage \$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	-	LF	\$ 20.00	\$ -
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	\$ 355,000

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	17,254	LF	\$ 30.00	\$ 517,620
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
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	43,783	LF	\$ 2.00	\$ 87,566
			Subtotal Traffic Items Section	\$ 1,955,186

TOTAL SECTIONS 1 thru 5 **\$ 13,507,711**

Section 6. Minor Items

\$ 13,507,711 x (10%) = \$ 1,350,771
(Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 1,350,771

Section 7. Roadway Mobilization

\$ 14,858,482 x (10%) = \$ 1,485,848
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 1,485,848

Section 8. Roadway Additions

Supplemental Work
\$ 14,858,482 x (10%) = \$ 1,485,848
(Subtotal Sections 1 thru 6)

Contingencies
\$ 14,858,482 x (25%) = \$ 3,714,621
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 5,200,469

TOTAL ROADWAY ITEMS \$ 21,544,799

(Subtotal Sections 1 thru 8)

SAY \$ 21,540,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>
Bridge Name	SR99	Railroad
Structure Type	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	68.00	68.00
Length - (ft)	285.00	150.00
Total Area -(ft ²)	19,380.00	10,200.00
Footing Type (pile/spread)	Pile	Pile
Cost per ft ²	\$200	\$200
Bridge (cost)	\$ 3,876,000	\$ 2,040,000
Contingency (20%)	\$775,200	\$408,000
Mobilization (10%)	\$387,600	\$204,000
Total Cost For Structure	\$ 5,038,800	\$ 2,652,000

Subtotal Structures Items \$ 7,690,800
(Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -
		\$ -
	Subtotal Railroad Items	\$ <u>-</u>

TOTAL STRUCTURES ITEMS \$ 7,690,800
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 3,972,950
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ 4,472,950

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. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 47.37

PROJECT DESCRIPTION:

Whisler Road Interchange

Limits:

Proposed Improvement (Scope): Construct Interchange:
1) Construction of Whisler Road overcrossing over SR-99
2) Railroad Overcrossing
3) Construction of SB On/Off-Ramps in a Type L-7 ("Partial Cloverleaf") configuration

Alternative: Partial Cloverleaf Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ 25,100,000
TOTAL STRUCTURE ITEMS	\$ 7,690,800
SUBTOTAL CONSTRUCTION COSTS	\$ 32,790,800
TOTAL RIGHT OF WAY ITEMS	\$ 4,472,950
TOTAL ALTERNATIVE COST	\$ 37,263,750

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	9,625	CY	\$ 20.00	\$ 192,498
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	302,843	CY	\$ 25.00	\$ 7,571,080

Subtotal Earthwork \$ 8,063,578

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	454,745	SF	\$ 10.00	\$ 4,547,450

Subtotal Pavement Structural Section \$ 4,547,450

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000

Subtotal Drainage \$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	-	LF	\$ 20.00	\$ -
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	\$ 355,000

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	19,239	LF	\$ 30.00	\$ 577,170
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
Overhead Signs	7	EA	\$ 100,000.00	\$ 700,000
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	47,581	LF	\$ 2.00	\$ 95,162
			Subtotal Traffic Items Section	\$ 2,122,332

TOTAL SECTIONS 1 thru 5 **\$ 15,738,360**

Section 6. Minor Items

\$ 15,738,360 x (10%) = \$ 1,573,836
(Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 1,573,836

Section 7. Roadway Mobilization

\$ 17,312,196 x (10%) = \$ 1,731,220
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 1,731,220

Section 8. Roadway Additions

Supplemental Work
\$ 17,312,196 x (10%) = \$ 1,731,220
(Subtotal Sections 1 thru 6)

Contingencies
\$ 17,312,196 x (25%) = \$ 4,328,049
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 6,059,268

TOTAL ROADWAY ITEMS \$ 25,102,684
(Subtotal Sections 1 thru 8)

SAY \$ 25,100,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>
Bridge Name	SR99	Railroad
Structure Type	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	68.00	68.00
Length - (ft)	285.00	150.00
Total Area -(ft ²)	19,380.00	10,200.00
Footing Type (pile/spread)	Pile	Pile
Cost per ft ²	\$200	\$200
Bridge (cost)	\$ 3,876,000	\$ 2,040,000
Contingency (20%)	\$775,200	\$408,000
Mobilization (10%)	\$387,600	\$204,000
Total Cost For Structure	\$ 5,038,800	\$ 2,652,000

Subtotal Structures Items \$ 7,690,800
(Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -
		\$ -
	Subtotal Railroad Items	\$ <u>-</u>

TOTAL STRUCTURES ITEMS \$ 7,690,800
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 3,972,950
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ 4,472,950

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. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 48.37

PROJECT DESCRIPTION:

Hanawalt Avenue Interchange

Limits:

Proposed Improvement (Scope):

Construct Interchange:

1) Construction of Hanawalt Ave. overcrossing over SR-99

2) Railroad Overcrossing

3) Construction of NB/SB On/Off-Ramps in a Type L-1 ("Tight Diamond") configuration

4) Realignment of SR-99 to accomodate the "Tight Diamond" configuration

Alternative: Tight Diamond Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ 33,700,000
TOTAL STRUCTURE ITEMS	\$ 6,895,200
SUBTOTAL CONSTRUCTION COSTS	\$ 40,595,200
TOTAL RIGHT OF WAY ITEMS	\$ 5,812,725
TOTAL ALTERNATIVE COST	\$ 46,407,925

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	94,714	CY	\$ 20.00	\$ 1,894,276
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	264,601	CY	\$ 25.00	\$ 6,615,029
				<u>Subtotal Earthwork</u>
				\$ 8,809,305

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	916,673	SF	\$ 10.00	\$ 9,166,730
				<u>Subtotal Pavement Structural Section</u>
				\$ 9,166,730

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000
				<u>Subtotal Drainage</u>
				\$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	4,784	LF	\$ 20.00	\$ 95,680
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
			<u>Subtotal Specialty Items</u>	<u>\$ 450,680</u>

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	18,388	LF	\$ 30.00	\$ 551,640
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
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	73,825	LF	\$ 2.00	\$ 147,650
			<u>Subtotal Traffic Items Section</u>	<u>\$ 2,049,290</u>

TOTAL SECTIONS 1 thru 5 **\$ 21,126,005**

Section 6. Minor Items

\$ 21,126,005 x (10%) = \$ 2,112,600
(Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 2,112,600

Section 7. Roadway Mobilization

\$ 23,238,605 x (10%) = \$ 2,323,861
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 2,323,861

Section 8. Roadway Additions

Supplemental Work
\$ 23,238,605 x (10%) = \$ 2,323,861
(Subtotal Sections 1 thru 6)

Contingencies
\$ 23,238,605 x (25%) = \$ 5,809,651
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 8,133,512

TOTAL ROADWAY ITEMS \$ 33,695,978

(Subtotal Sections 1 thru 8)

SAY \$ 33,700,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>
Bridge Name	SR99	Railroad
Structure Type	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	68.00	68.00
Length - (ft)	240.00	150.00
Total Area -(ft ²)	16,320.00	10,200.00
Footing Type (pile/spread)	Pile	Pile
Cost per ft ²	\$200	\$200
Bridge (cost)	\$ 3,264,000	\$ 2,040,000
Contingency (20%)	\$652,800	\$408,000
Mobilization (10%)	\$326,400	\$204,000
Total Cost For Structure	\$ 4,243,200	\$ 2,652,000

Subtotal Structures Items \$ 6,895,200
(Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 6,895,200
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 5,312,725
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ 5,812,725

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. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 48.37

PROJECT DESCRIPTION:

Hanawalt Avenue Interchange

Limits:

Proposed Improvement (Scope): Construct Interchange:
1) Construction of Hanawalt Ave. overcrossing over SR-99
2) Railroad Overcrossing
3) Construction of NB/SB On/Off-Ramps in a Type L-2 ("Spread Diamond") configuration
4) Realignment of SR-99 to accomodate the "Spread Diamond" configuration

Alternative: Spread Diamond Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ 34,160,000
TOTAL STRUCTURE ITEMS	\$ 7,072,000
SUBTOTAL CONSTRUCTION COSTS	\$ 41,232,000
TOTAL RIGHT OF WAY ITEMS	\$ 7,856,610
TOTAL ALTERNATIVE COST	\$ 49,088,610

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	94,737	CY	\$ 20.00	\$ 1,894,744
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	271,934	CY	\$ 25.00	\$ 6,798,341

Subtotal Earthwork \$ 8,993,085

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	924,140	SF	\$ 10.00	\$ 9,241,400

Subtotal Pavement Structural Section \$ 9,241,400

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000

Subtotal Drainage \$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	5,597	LF	\$ 20.00	\$ 111,940
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 \$ 466,940

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	18,819	LF	\$ 30.00	\$ 564,570
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
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	74,462	LF	\$ 2.00	\$ 148,924

Subtotal Traffic Items Section \$ 2,063,494

TOTAL SECTIONS 1 thru 5 \$ 21,414,919

Section 6. Minor Items

\$ 21,414,919 x (10%) = \$ 2,141,492
(Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 2,141,492

Section 7. Roadway Mobilization

\$ 23,556,411 x (10%) = \$ 2,355,641
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 2,355,641

Section 8. Roadway Additions

Supplemental Work
\$ 23,556,411 x (10%) = \$ 2,355,641
(Subtotal Sections 1 thru 6)

Contingencies
\$ 23,556,411 x (25%) = \$ 5,889,103
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 8,244,744

TOTAL ROADWAY ITEMS \$ 34,156,796
(Subtotal Sections 1 thru 8)

SAY \$ 34,160,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>
Bridge Name	SR99	Railroad
Structure Type	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	68.00	68.00
Length - (ft)	250.00	150.00
Total Area -(ft ²)	17,000.00	10,200.00
Footing Type (pile/spread)	Pile	Pile
Cost per ft ²	\$200	\$200
Bridge (cost)	\$ 3,400,000	\$ 2,040,000
Contingency (20%)	\$680,000	\$408,000
Mobilization (10%)	\$340,000	\$204,000
Total Cost For Structure	\$ 4,420,000	\$ 2,652,000

Subtotal Structures Items \$ 7,072,000
 (Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 7,072,000
 (Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 7,356,610
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ <u>7,856,610</u>

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. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 48.37

PROJECT DESCRIPTION:

Hanawalt Avenue Interchange

Limits:

Proposed Improvement (Scope): Construct Interchange:
1) Construction of Hanawalt Ave. overcrossing over SR-99
2) Railroad Overcrossing
3) Construction of NB/SB On/Off-Ramps in a Type L-7 ("Partial Cloverleaf") configuration
4) Realignment of SR-99 to accomodate the "Partial Cloverleaf" configuration

Alternative: Partial Cloverleaf Diamond Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ 36,470,000
TOTAL STRUCTURE ITEMS	\$ 7,072,000
SUBTOTAL CONSTRUCTION COSTS	\$ 43,542,000
TOTAL RIGHT OF WAY ITEMS	\$ 7,857,210
TOTAL ALTERNATIVE COST	\$ 51,399,210

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	93,783	CY	\$ 20.00	\$ 1,875,658
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	302,136	CY	\$ 25.00	\$ 7,553,412
				<u><u>Subtotal Earthwork</u></u>
				\$ 9,729,070

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	978,869	SF	\$ 10.00	\$ 9,788,690
				<u><u>Subtotal Pavement Structural Section</u></u>
				\$ 9,788,690

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000
				<u><u>Subtotal Drainage</u></u>
				\$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	5,597	LF	\$ 20.00	\$ 111,940
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 \$ 466,940

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	20,697	LF	\$ 30.00	\$ 620,910
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
Overhead Signs	7	EA	\$ 100,000.00	\$ 700,000
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	78,406	LF	\$ 2.00	\$ 156,812

Subtotal Traffic Items Section \$ 2,227,722

TOTAL SECTIONS 1 thru 5 \$ 22,862,422

Section 6. Minor Items

\$ 22,862,422 x (10%) = \$ 2,286,242
(Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 2,286,242

Section 7. Roadway Mobilization

\$ 25,148,664 x (10%) = \$ 2,514,866
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 2,514,866

Section 8. Roadway Additions

Supplemental Work
\$ 25,148,664 x (10%) = \$ 2,514,866
(Subtotal Sections 1 thru 6)

Contingencies
\$ 25,148,664 x (25%) = \$ 6,287,166
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 8,802,032

TOTAL ROADWAY ITEMS \$ 36,465,562
(Subtotal Sections 1 thru 8)

SAY \$ 36,470,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>
Bridge Name	SR99	Railroad
Structure Type	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	68.00	68.00
Length - (ft)	250.00	150.00
Total Area -(ft ²)	17,000.00	10,200.00
Footing Type (pile/spread)	Pile	Pile
Cost per ft ²	\$200	\$200
Bridge (cost)	\$ 3,400,000	\$ 2,040,000
Contingency (20%)	\$680,000	\$408,000
Mobilization (10%)	\$340,000	\$204,000
Total Cost For Structure	\$ 4,420,000	\$ 2,652,000

Subtotal Structures Items \$ 7,072,000
(Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 7,072,000
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 7,357,210
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ <u>7,857,210</u>

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. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 49.30

PROJECT DESCRIPTION:

Sherwood Avenue Interchange

Limits:

Proposed Improvement (Scope): Construct Interchange:
1) Construction of NB On-Ramp to SR-99

Alternative: Add NB On-Ramp Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ 3,870,000
TOTAL STRUCTURE ITEMS	\$ -
SUBTOTAL CONSTRUCTION COSTS	\$ 3,870,000
TOTAL RIGHT OF WAY ITEMS	\$ 125,000
TOTAL ALTERNATIVE COST	\$ 3,995,000

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	5,742	CY	\$ 20.00	\$ 114,831
Clearing & Grubbing	1	LS	\$ 25,000.00	\$ 25,000
Remove Unsuitable Material	1	LS	\$ 50,000.00	\$ 50,000
Imported Borrow	55,735	CY	\$ 25.00	\$ 1,393,364

Subtotal Earthwork \$ 1,583,195

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	44,523	SF	\$ 10.00	\$ 445,230

Subtotal Pavement Structural Section \$ 445,230

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 150,000.00	\$ 150,000

Subtotal Drainage \$ 150,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	2,035	LF	\$ 20.00	\$ 40,700
Water Pollution Control	1	LS	\$ 35,000.00	\$ 35,000
Landscaping and Aesthetic Treatment	1	LS	\$ 20,000.00	\$ 20,000
Environmental Compliance	1	LS	\$ 25,000.00	\$ 25,000
Resident Engineer Office Space	1	EA	\$ 10,000.00	\$ 10,000
			Subtotal Specialty Items	\$ 130,700

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	1,915	LF	\$ 30.00	\$ 57,450
Traffic Signals (Complete Intersection)	-	EA	\$ 200,000.00	\$ -
Overhead Signs	-	EA	\$ 100,000.00	\$ -
Construction Area Signs	1	LS	\$ 15,000.00	\$ 15,000
Traffic Control	1	LS	\$ 30,000.00	\$ 30,000
Roadside Signs	1	LS	\$ 10,000.00	\$ 10,000
Pavement Delineation	3,387	LF	\$ 2.00	\$ 6,774
			Subtotal Traffic Items Section	\$ 119,224

TOTAL SECTIONS 1 thru 5 \$ 2,428,349

Section 6. Minor Items

\$ 2,428,349 x (10%) =
(Subtotal Sections 1 thru 5)

\$ 242,835

Subtotal Minor Items \$ 242,835

Section 7. Roadway Mobilization

\$ 2,671,184 x (10%) =
(Subtotal Sections 1 thru 6)

\$ 267,118

Subtotal Roadway Mobilization \$ 267,118

Section 8. Roadway Additions

Supplemental Work

\$ 2,671,184 x (10%) =
(Subtotal Sections 1 thru 6)

\$ 267,118

Contingencies

\$ 2,671,184 x (25%) =
(Subtotal Sections 1 thru 6)

\$ 667,796

Subtotal Roadway Additions \$ 934,914

TOTAL ROADWAY ITEMS \$ 3,873,216

(Subtotal Sections 1 thru 8)

SAY \$ 3,870,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

II. STRUCTURES ITEMS

Bridge Name
Structure Type
Width (out to out) - (ft)
Length - (ft)
Total Area -(ft²)
Footing Type (pile/spread)
Cost per ft²
Bridge (cost)
Contingency (20%)
Mobilization (10%)
Total Cost For Structure

Subtotal Structures Items \$ _____ -
(Sum of Total Cost for Structures)

Railroad Related Costs: _____ \$ -
_____ \$ -
_____ \$ -

Subtotal Railroad Items \$ _____ -

TOTAL STRUCTURES ITEMS \$ _____ -
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Robert Ferguson, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ -
B. Utility Relocation (State Share)	\$ 125,000
TOTAL RIGHT OF WAY ITEMS	\$ <u>125,000</u>

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. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 49.30

PROJECT DESCRIPTION:

Sherwood Avenue Interchange

Limits:

Proposed Improvement (Scope):

Construct Interchange:

- 1) Construction of Sherwood Ave. overcrossing over SR-99
- 2) Railroad Overcrossing
- 3) Construction of NB/SB On/Off-Ramps in a Type L-1 ("Tight Diamond") configuration
- 4) Construction of Retaining Walls to accomodate the "Tight Diamond" configuration
- 5) Widen SR-99 1 lane in the NB/SB directions

Alternative: Tight Diamond Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	<u>\$ 17,210,000</u>
TOTAL STRUCTURE ITEMS	<u>\$ 6,049,544</u>
SUBTOTAL CONSTRUCTION COSTS	<u>\$ 23,259,544</u>
TOTAL RIGHT OF WAY ITEMS	<u>\$ 10,273,175</u>
TOTAL ALTERNATIVE COST	<u>\$ 33,532,719</u>

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	16,283	CY	\$ 20.00	\$ 325,658
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	136,123	CY	\$ 25.00	\$ 3,403,086

Subtotal Earthwork \$ 4,028,744

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	372,400	SF	\$ 10.00	\$ 3,724,000

Subtotal Pavement Structural Section \$ 3,724,000

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000

Subtotal Drainage \$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	4,765	LF	\$ 20.00	\$ 95,300
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
			<u>Subtotal Specialty Items</u>	<u>\$ 450,300</u>

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	16,736	LF	\$ 30.00	\$ 502,080
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
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	41,969	LF	\$ 2.00	\$ 83,938
			<u>Subtotal Traffic Items Section</u>	<u>\$ 1,936,018</u>

TOTAL SECTIONS 1 thru 5 **\$ 10,789,062**

Section 6. Minor Items

\$ 10,789,062 x (10%) = \$ 1,078,906
 (Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 1,078,906

Section 7. Roadway Mobilization

\$ 11,867,968 x (10%) = \$ 1,186,797
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 1,186,797

Section 8. Roadway Additions

Supplemental Work

\$ 11,867,968 x (10%) = \$ 1,186,797
 (Subtotal Sections 1 thru 6)

Contingencies

\$ 11,867,968 x (25%) = \$ 2,966,992
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 4,153,789

TOTAL ROADWAY ITEMS \$ 17,208,553

(Subtotal Sections 1 thru 8)

SAY \$ 17,210,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>	<u>Retaining Walls</u>	<u>Structure Removal</u>
Bridge Name	SR99	Railroad	NB On/Off Ramps	SR99/RR
Structure Type	CIP/PS Box	CIP/PS Box	MSE Walls	Removal
Width (out to out) - (ft)	-	-	-	-
Length - (ft)	-	-	-	-
Total Area -(ft ²)	9,307.00	5,502.00	28,310.00	18,413.00
Footing Type (pile/spread)	Pile	Pile	-	-
Cost per ft ²	\$200	\$200	\$50	\$15
Bridge (cost)	\$ 1,861,400	\$ 1,100,400	\$ 1,415,500	\$ 276,195
Contingency (20%)	\$372,280	\$220,080	\$283,100	\$55,239
Mobilization (10%)	\$186,140	\$110,040	\$141,550	\$27,620
Total Cost For Structure	\$ 2,419,820	\$ 1,430,520	\$ 1,840,150	\$ 359,054

Subtotal Structures Items \$ 6,049,544
(Sum of Total Cost for Structures)

Railroad Related Costs:	_____	\$ -
	_____	\$ -
	_____	\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 6,049,544
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 9,773,175
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ <u>10,273,175</u>

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. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 49.30

PROJECT DESCRIPTION:

Sherwood Avenue Interchange

Limits:

Proposed Improvement (Scope):

Construct Interchange:

- 1) Construction of Sherwood Ave. overcrossing over SR-99
- 2) Railroad Overcrossing
- 3) Construction of NB/SB On/Off-Ramps in a Type L-7 ("Partial Cloverleaf") configuration
- 4) Construction of Retaining Walls to accomodate the "Partial Cloverleaf" configuration
- 5) Widen SR-99 1 lane in the NB/SB directions

Alternative: Partial Cloverleaf Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	<u>\$ 19,880,000</u>
TOTAL STRUCTURE ITEMS	<u>\$ 6,049,544</u>
SUBTOTAL CONSTRUCTION COSTS	<u>\$ 25,929,544</u>
TOTAL RIGHT OF WAY ITEMS	<u>\$ 16,339,280</u>
TOTAL ALTERNATIVE COST	<u>\$ 42,268,824</u>

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	15,864	CY	\$ 20.00	\$ 317,277
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	172,699	CY	\$ 25.00	\$ 4,317,480

Subtotal Earthwork \$ 4,934,757

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	435,286	SF	\$ 10.00	\$ 4,352,860

Subtotal Pavement Structural Section \$ 4,352,860

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000

Subtotal Drainage \$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	4,932	LF	\$ 20.00	\$ 98,640
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
			<u>Subtotal Specialty Items</u>	<u>\$ 453,640</u>

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	17,664	LF	\$ 30.00	\$ 529,920
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
Overhead Signs	7	EA	\$ 100,000.00	\$ 700,000
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	45,799	LF	\$ 2.00	\$ 91,598
			<u>Subtotal Traffic Items Section</u>	<u>\$ 2,071,518</u>

TOTAL SECTIONS 1 thru 5 **\$ 12,462,775**

Section 6. Minor Items

\$ 12,462,775 x (10%) = \$ 1,246,278
 (Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 1,246,278

Section 7. Roadway Mobilization

\$ 13,709,053 x (10%) = \$ 1,370,905
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 1,370,905

Section 8. Roadway Additions

Supplemental Work

\$ 13,709,053 x (10%) = \$ 1,370,905
 (Subtotal Sections 1 thru 6)

Contingencies

\$ 13,709,053 x (25%) = \$ 3,427,263
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 4,798,168

TOTAL ROADWAY ITEMS \$ 19,878,126

(Subtotal Sections 1 thru 8)

SAY \$ 19,880,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>	<u>Retaining Walls</u>	<u>Structure Removal</u>
Bridge Name	SR99	Railroad	NB On/Off Ramps	SR99/RR
Structure Type	CIP/PS Box	CIP/PS Box	MSE Walls	Removal
Width (out to out) - (ft)	-	-	-	-
Length - (ft)	-	-	-	-
Total Area -(ft ²)	9,307.00	5,502.00	28,310.00	18,413.00
Footing Type (pile/spread)	Pile	Pile	-	-
Cost per ft ²	\$200	\$200	\$50	\$15
Bridge (cost)	\$ 1,861,400	\$ 1,100,400	\$ 1,415,500	\$ 276,195
Contingency (20%)	\$372,280	\$220,080	\$283,100	\$55,239
Mobilization (10%)	\$186,140	\$110,040	\$141,550	\$27,620
Total Cost For Structure	\$ 2,419,820	\$ 1,430,520	\$ 1,840,150	\$ 359,054

Subtotal Structures Items \$ 6,049,544
(Sum of Total Cost for Structures)

Railroad Related Costs:	_____	\$ -
	_____	\$ -
	_____	\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 6,049,544
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 15,839,280
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ 16,339,280

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. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 49.30

PROJECT DESCRIPTION:

Sherwood Avenue Interchange

Limits:

Proposed Improvement (Scope):

Construct Interchange:

- 1) Construction of Sherwood Ave. overcrossing over SR-99
- 2) Railroad Overcrossing
- 3) Construction of NB/SB On/Off-Ramps in a Type L-8 ("Partial Cloverleaf") configuration
- 4) Construction of Retaining Walls to accomodate the "Partial Cloverleaf" configuration
- 5) Widen SR-99 1 lane in the NB/SB directions

Alternative: Reverse Partial Cloverleaf Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	<u>\$ 17,350,000</u>
TOTAL STRUCTURE ITEMS	<u>\$ 6,484,264</u>
SUBTOTAL CONSTRUCTION COSTS	<u>\$ 23,834,264</u>
TOTAL RIGHT OF WAY ITEMS	<u>\$ 12,475,400</u>
TOTAL ALTERNATIVE COST	<u>\$ 36,309,664</u>

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	15,831	CY	\$ 20.00	\$ 316,628
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	129,974	CY	\$ 25.00	\$ 3,249,353

Subtotal Earthwork \$ 3,865,981

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	392,389	SF	\$ 10.00	\$ 3,923,890

Subtotal Pavement Structural Section \$ 3,923,890

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000

Subtotal Drainage \$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	2,582	LF	\$ 20.00	\$ 51,640
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	\$ 406,640

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	16,525	LF	\$ 30.00	\$ 495,750
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
Overhead Signs	7	EA	\$ 100,000.00	\$ 700,000
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	42,515	LF	\$ 2.00	\$ 85,030
			Subtotal Traffic Items Section	\$ 2,030,780

TOTAL SECTIONS 1 thru 5 **\$ 10,877,291**

Section 6. Minor Items

\$ 10,877,291 x (10%) = \$ 1,087,729
 (Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 1,087,729

Section 7. Roadway Mobilization

\$ 11,965,020 x (10%) = \$ 1,196,502
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 1,196,502

Section 8. Roadway Additions

Supplemental Work

\$ 11,965,020 x (10%) = \$ 1,196,502
 (Subtotal Sections 1 thru 6)

Contingencies

\$ 11,965,020 x (25%) = \$ 2,991,255
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 4,187,757

TOTAL ROADWAY ITEMS \$ 17,349,279

(Subtotal Sections 1 thru 8)

SAY \$ 17,350,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>	<u>Retaining Walls</u>	<u>Structure Removal</u>
Bridge Name	SR99	Railroad	NB On/Off Ramps	SR99/RR
Structure Type	CIP/PS Box	CIP/PS Box	MSE Walls	Removal
Width (out to out) - (ft)	-	-	-	-
Length - (ft)	-	-	-	-
Total Area -(ft ²)	10,979.00	5,502.00	28,310.00	18,413.00
Footing Type (pile/spread)	Pile	Pile	-	-
Cost per ft ²	\$200	\$200	\$50	\$15
Bridge (cost)	\$ 2,195,800	\$ 1,100,400	\$ 1,415,500	\$ 276,195
Contingency (20%)	\$439,160	\$220,080	\$283,100	\$55,239
Mobilization (10%)	\$219,580	\$110,040	\$141,550	\$27,620
Total Cost For Structure	\$ 2,854,540	\$ 1,430,520	\$ 1,840,150	\$ 359,054

Subtotal Structures Items \$ 6,484,264
(Sum of Total Cost for Structures)

Railroad Related Costs:

	\$ -
	\$ -
	\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 6,484,264
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 11,975,400
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ 12,475,400

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. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 49.30

PROJECT DESCRIPTION:

Sherwood Avenue Interchange

Limits:

Proposed Improvement (Scope):

Construct Interchange:

1) Construction of Sherwood Ave. Single Point Urban Interchange over SR-99

2) Construction of NB/SB On/Off-Ramps to accommodate the SPUI configuration.

3) Construction of Retaining Walls to accommodate the SPUI configuration

4) Widen SR-99 1 lane in the NB/SB directions

Alternative: Single Point Urban Interchange Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	<u>\$ 12,980,000</u>
TOTAL STRUCTURE ITEMS	<u>\$ 54,873,904</u>
SUBTOTAL CONSTRUCTION COSTS	<u>\$ 67,853,904</u>
TOTAL RIGHT OF WAY ITEMS	<u>\$ 5,693,675</u>
TOTAL ALTERNATIVE COST	<u>\$ 73,547,579</u>

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	20,885	CY	\$ 20.00	\$ 417,693
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	89,172	CY	\$ 25.00	\$ 2,229,289

Subtotal Earthwork \$ 2,946,982

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	260,656	SF	\$ 10.00	\$ 2,606,560

Subtotal Pavement Structural Section \$ 2,606,560

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 400,000.00	\$ 400,000

Subtotal Drainage \$ 400,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	-	LF	\$ 20.00	\$ -
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	\$ 355,000

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	16,493	LF	\$ 30.00	\$ 494,790
Traffic Signals (Complete Intersection)	1	EA	\$ 300,000.00	\$ 300,000
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	41,101	LF	\$ 2.00	\$ 82,202
			Subtotal Traffic Items Section	\$ 1,826,992

			TOTAL SECTIONS 1 thru 5	\$ 8,135,534
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Section 6. Minor Items

\$ 8,135,534 x (10%) = \$ 813,553
 (Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 813,553

Section 7. Roadway Mobilization

\$ 8,949,088 x (10%) = \$ 894,909
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 894,909

Section 8. Roadway Additions

Supplemental Work

\$ 8,949,088 x (10%) = \$ 894,909
 (Subtotal Sections 1 thru 6)

Contingencies

\$ 8,949,088 x (25%) = \$ 2,237,272
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 3,132,181

TOTAL ROADWAY ITEMS \$ 12,976,177

(Subtotal Sections 1 thru 8)

SAY \$ 12,980,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Retaining Walls</u>	<u>Structure Removal</u>
	SPUI	NB On/Off Ramps	SR99/RR
Bridge Name			
Structure Type	-	MSE Walls	Removal
Width (out to out) - (ft)	-	-	-
Length - (ft)	-	-	-
Total Area -(ft ²)	166,862.00	4,380.00	18,413.00
Footing Type (pile/spread)	Pile	-	-
Cost per ft ²	\$250	\$50	\$15
Bridge (cost)	\$ 41,715,500	\$ 219,000	\$ 276,195
Contingency (20%)	\$8,343,100	\$43,800	\$55,239
Mobilization (10%)	\$4,171,550	\$21,900	\$27,620
Total Cost For Structure	\$ 54,230,150	\$ 284,700	\$ 359,054

Subtotal Structures Items \$ 54,873,904
(Sum of Total Cost for Structures)

Railroad Related Costs:

	\$ -
	\$ -
	\$ -
	\$ -
Subtotal Railroad Items	\$ -

TOTAL STRUCTURES ITEMS \$ 54,873,904
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 5,193,675
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ <u>5,693,675</u>

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. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 49.95

PROJECT DESCRIPTION:

Perkins Avenue Interchange

Limits:

Proposed Improvement (Scope):

Construct Interchange:

1) Construction of SB On/Off "Hook" Ramps

Alternative: Hook Ramps Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ 3,210,000
TOTAL STRUCTURE ITEMS	\$ -
SUBTOTAL CONSTRUCTION COSTS	\$ 3,210,000
TOTAL RIGHT OF WAY ITEMS	\$ 722,590
TOTAL ALTERNATIVE COST	\$ 3,932,590

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	15,054	CY	\$ 20.00	\$ 301,084
Clearing & Grubbing	1	LS	\$ 25,000.00	\$ 25,000
Remove Unsuitable Material	1	LS	\$ 50,000.00	\$ 50,000
Imported Borrow	(9,280)	CY	\$ 25.00	\$ (232,008)
				<u><u>\$ 144,077</u></u>

Subtotal Earthwork**Section 2. Pavement Structural Section**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	125,145	SF	\$ 10.00	\$ 1,251,450
				<u><u>\$ 1,251,450</u></u>

Subtotal Pavement Structural Section**Section 3. Drainage, Water, Sewer**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 100,000.00	\$ 100,000
				<u><u>\$ 100,000</u></u>

Subtotal Drainage

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	-	LF	\$ 20.00	\$ -
Water Pollution Control	1	LS	\$ 50,000.00	\$ 50,000
Landscaping and Aesthetic Treatment	1	LS	\$ 20,000.00	\$ 20,000
Environmental Compliance	1	LS	\$ 30,000.00	\$ 30,000
Resident Engineer Office Space	1	EA	\$ 10,000.00	\$ 10,000
			<u>Subtotal Specialty Items</u>	<u>\$ 110,000</u>

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	3,491	LF	\$ 30.00	\$ 104,730
Traffic Signals (Complete Intersection)	-	EA	\$ 200,000.00	\$ -
Overhead Signs	2	EA	\$ 100,000.00	\$ 200,000
Construction Area Signs	1	LS	\$ 25,000.00	\$ 25,000
Traffic Control	1	LS	\$ 50,000.00	\$ 50,000
Roadside Signs	1	LS	\$ 10,000.00	\$ 10,000
Pavement Delineation	9,190	LF	\$ 2.00	\$ 18,380
			<u>Subtotal Traffic Items Section</u>	<u>\$ 408,110</u>

TOTAL SECTIONS 1 thru 5 **\$ 2,013,637**

Section 6. Minor Items

\$ 2,013,637 x (10%) =
(Subtotal Sections 1 thru 5)

\$ 201,364

Subtotal Minor Items \$ 201,364

Section 7. Roadway Mobilization

\$ 2,215,001 x (10%) =
(Subtotal Sections 1 thru 6)

\$ 221,500

Subtotal Roadway Mobilization \$ 221,500

Section 8. Roadway Additions

Supplemental Work

\$ 2,215,001 x (10%) =
(Subtotal Sections 1 thru 6)

\$ 221,500

Contingencies

\$ 2,215,001 x (25%) =
(Subtotal Sections 1 thru 6)

\$ 553,750

Subtotal Roadway Additions \$ 775,250

TOTAL ROADWAY ITEMS \$ 3,211,751

(Subtotal Sections 1 thru 8)

SAY \$ 3,210,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

II. STRUCTURES ITEMS

Bridge Name
 Structure Type
 Width (out to out) - (ft)
 Length - (ft)
 Total Area -(ft²)
 Footing Type (pile/spread)
 Cost per ft²
 Bridge (cost)
 Contingency (20%)
 Mobilization (10%)
 Total Cost For Structure

Subtotal Structures Items \$ _____ -
 (Sum of Total Cost for Structures)

Railroad Related Costs:

		\$	-
		\$	-
		\$	-

Subtotal Railroad Items \$ _____ -

TOTAL STRUCTURES ITEMS \$ _____ -
 (Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	Reimond H. Garcia, P.E.	Phone #	916-368-9181	Date	10/25/2011
	(Print Name)				
Estimate Checked By	Robert Ferguson, P.E.	Phone #	916-368-9181	Date	10/25/2011
	(Print Name)				

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 622,590
B. Utility Relocation (State Share)	\$ 100,000
TOTAL RIGHT OF WAY ITEMS	\$ <u>722,590</u>

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. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 49.95

PROJECT DESCRIPTION:

Perkins Avenue Interchange

Limits:

Proposed Improvement (Scope):

Construct Interchange:

1) Construction of Perkins Ave. overcrossing over SR-99

2) Railroad Overcrossing

3) Construction of NB/SB On/Off-Ramps in a Type L-1 ("Tight Diamond") configuration

4) Construction of Retaining Walls to accomodate the "Tight Diamond" configuration

5) Widen SR-99 1 lane in the NB/SB directions

Alternative: Tight Diamond Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	<u>\$ 17,060,000</u>
TOTAL STRUCTURE ITEMS	<u>\$ 6,126,400</u>
SUBTOTAL CONSTRUCTION COSTS	<u>\$ 23,186,400</u>
TOTAL RIGHT OF WAY ITEMS	<u>\$ 9,894,410</u>
TOTAL ALTERNATIVE COST	<u>\$ 33,080,810</u>

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	22,499	CY	\$ 20.00	\$ 449,981
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 20,000.00	\$ 20,000
Imported Borrow	112,369	CY	\$ 25.00	\$ 2,809,234

Subtotal Earthwork \$ 3,379,214

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	424,819	SF	\$ 10.00	\$ 4,248,190

Subtotal Pavement Structural Section \$ 4,248,190

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000

Subtotal Drainage \$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	4,284	LF	\$ 20.00	\$ 85,680
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
			<u>Subtotal Specialty Items</u>	<u>\$ 440,680</u>

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	17,887	LF	\$ 30.00	\$ 536,610
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
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	45,778	LF	\$ 2.00	\$ 91,556
			<u>Subtotal Traffic Items Section</u>	<u>\$ 1,978,166</u>

TOTAL SECTIONS 1 thru 5 **\$ 10,696,250**

Section 6. Minor Items

\$ 10,696,250 x (10%) = \$ 1,069,625
 (Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 1,069,625

Section 7. Roadway Mobilization

\$ 11,765,875 x (10%) = \$ 1,176,588
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 1,176,588

Section 8. Roadway Additions

Supplemental Work

\$ 11,765,875 x (10%) = \$ 1,176,588
 (Subtotal Sections 1 thru 6)

Contingencies

\$ 11,765,875 x (25%) = \$ 2,941,469
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 4,118,056

TOTAL ROADWAY ITEMS \$ 17,060,519

(Subtotal Sections 1 thru 8)

SAY \$ 17,060,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>	<u>Retaining Walls</u>	<u>Structure Removal</u>
Bridge Name	SR99	Railroad	NB On/Off Ramps	SR99/RR
Structure Type	CIP/PS Box	CIP/PS Box	MSE Walls	Removal
Width (out to out) - (ft)	-	-	-	-
Length - (ft)	-	-	-	-
Total Area -(ft ²)	9,141.00	6,591.00	26,140.00	17,281.00
Footing Type (pile/spread)	Pile	Pile	-	-
Cost per ft ²	\$200	\$200	\$50	\$15
Bridge (cost)	\$ 1,828,200	\$ 1,318,200	\$ 1,307,000	\$ 259,215
Contingency (20%)	\$365,640	\$263,640	\$261,400	\$51,843
Mobilization (10%)	\$182,820	\$131,820	\$130,700	\$25,922
Total Cost For Structure	\$ 2,376,660	\$ 1,713,660	\$ 1,699,100	\$ 336,980

Subtotal Structures Items \$ 6,126,400
(Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 6,126,400
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	Reimond H. Garcia, P.E. (Print Name)	Phone #	916-368-9181	Date	10/25/2011
Estimate Checked By	Robert Ferguson, P.E. (Print Name)	Phone #	916-368-9181	Date	10/25/2011

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 9,394,410
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ 9,894,410

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	<u>Reimond H. Garcia, P.E.</u>	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
	(Print Name)				
Estimate Checked By	<u>Carl H. Gibson III, P.E.</u>	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
	(Print Name)				

Preliminary Estimate of Construction Costs

06-KER-99, PM 49.95

PROJECT DESCRIPTION:

Perkins Avenue Interchange

Limits:

Proposed Improvement (Scope):

Construct Interchange:

- 1) Construction of Perkins Ave. overcrossing over SR-99
- 2) Railroad Overcrossing
- 3) Construction of NB/SB On/Off-Ramps in a Type L-7 ("Partial Cloverleaf") configuration
- 4) Construction of Retaining Walls to accomodate the "Tight Diamond" configuration
- 5) Widen SR-99 1 lane in the NB/SB directions

Alternative: Partial Cloverleaf Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	<u>\$ 19,870,000</u>
TOTAL STRUCTURE ITEMS	<u>\$ 6,125,288</u>
SUBTOTAL CONSTRUCTION COSTS	<u>\$ 25,995,288</u>
TOTAL RIGHT OF WAY ITEMS	<u>\$ 18,434,720</u>
TOTAL ALTERNATIVE COST	<u>\$ 44,430,008</u>

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	27,171	CY	\$ 20.00	\$ 543,421
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 20,000.00	\$ 20,000
Imported Borrow	143,425	CY	\$ 25.00	\$ 3,585,615

Subtotal Earthwork \$ 4,249,035

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	498,841	SF	\$ 10.00	\$ 4,988,410

Subtotal Pavement Structural Section \$ 4,988,410

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000

Subtotal Drainage \$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	4,657	LF	\$ 20.00	\$ 93,140
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
			<u>Subtotal Specialty Items</u>	<u>\$ 448,140</u>

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	19,007	LF	\$ 30.00	\$ 570,210
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
Overhead Signs	7	EA	\$ 100,000.00	\$ 700,000
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	50,942	LF	\$ 2.00	\$ 101,884
			<u>Subtotal Traffic Items Section</u>	<u>\$ 2,122,094</u>

TOTAL SECTIONS 1 thru 5 **\$ 12,457,679**

Section 6. Minor Items

\$ 12,457,679 x (10%) = \$ 1,245,768
 (Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 1,245,768

Section 7. Roadway Mobilization

\$ 13,703,447 x (10%) = \$ 1,370,345
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 1,370,345

Section 8. Roadway Additions

Supplemental Work

\$ 13,703,447 x (10%) = \$ 1,370,345
 (Subtotal Sections 1 thru 6)

Contingencies

\$ 13,703,447 x (25%) = \$ 3,425,862
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 4,796,207

TOTAL ROADWAY ITEMS \$ 19,869,999

(Subtotal Sections 1 thru 8)

SAY \$ 19,870,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>	<u>Retaining Walls</u>	<u>Structure Removal</u>
Bridge Name	SR99	Railroad	NB On/Off Ramps	SR99/RR
Structure Type	CIP/PS Box	CIP/PS Box	MSE Walls	Removal
Width (out to out) - (ft)	-	-	-	-
Length - (ft)	-	-	-	-
Total Area -(ft ²)	9,141.00	6,591.00	26,140.00	17,224.00
Footing Type (pile/spread)	Pile	Pile	-	-
Cost per ft ²	\$200	\$200	\$50	\$15
Bridge (cost)	\$ 1,828,200	\$ 1,318,200	\$ 1,307,000	\$ 258,360
Contingency (20%)	\$365,640	\$263,640	\$261,400	\$51,672
Mobilization (10%)	\$182,820	\$131,820	\$130,700	\$25,836
Total Cost For Structure	\$ 2,376,660	\$ 1,713,660	\$ 1,699,100	\$ 335,868

Subtotal Structures Items \$ 6,125,288
(Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 6,125,288
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 17,934,720
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ 18,434,720

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. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 49.95

PROJECT DESCRIPTION:

Perkins Avenue Interchange

Limits:

Proposed Improvement (Scope):

Construct Interchange:

- 1) Construction of Perkins Ave. Single Point Urban Interchange over SR-99
- 2) Construction of NB/SB On/Off-Ramps to accomodate the SPUI configuration.
- 3) Widen SR-99 1 lane in the NB/SB directions

Alternative: Single Point Urban Interchange Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	<u>\$ 14,610,000</u>
TOTAL STRUCTURE ITEMS	<u>\$ 59,080,554</u>
SUBTOTAL CONSTRUCTION COSTS	<u>\$ 73,690,554</u>
TOTAL RIGHT OF WAY ITEMS	<u>\$ 5,506,910</u>
TOTAL ALTERNATIVE COST	<u>\$ 79,197,464</u>

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	28,481	CY	\$ 20.00	\$ 569,616
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	108,345	CY	\$ 25.00	\$ 2,708,615

Subtotal Earthwork \$ 3,578,231

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	299,440	SF	\$ 10.00	\$ 2,994,400

Subtotal Pavement Structural Section \$ 2,994,400

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 400,000.00	\$ 400,000

Subtotal Drainage \$ 400,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	-	LF	\$ 20.00	\$ -
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	\$ 355,000

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	15,403	LF	\$ 30.00	\$ 462,090
Traffic Signals (Complete Intersection)	1	EA	\$ 300,000.00	\$ 300,000
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	61,514	LF	\$ 2.00	\$ 123,028
			Subtotal Traffic Items Section	\$ 1,835,118

TOTAL SECTIONS 1 thru 5	\$ 9,162,749
--------------------------------	---------------------

Section 6. Minor Items

\$ 9,162,749 x (10%) =
(Subtotal Sections 1 thru 5)

\$ 916,275

Subtotal Minor Items \$ 916,275

Section 7. Roadway Mobilization

\$ 10,079,024 x (10%) =
(Subtotal Sections 1 thru 6)

\$ 1,007,902

Subtotal Roadway Mobilization \$ 1,007,902

Section 8. Roadway Additions

Supplemental Work

\$ 10,079,024 x (10%) =
(Subtotal Sections 1 thru 6)

\$ 1,007,902

Contingencies

\$ 10,079,024 x (25%) =
(Subtotal Sections 1 thru 6)

\$ 2,519,756

Subtotal Roadway Additions \$ 3,527,658

TOTAL ROADWAY ITEMS \$ 14,614,585

(Subtotal Sections 1 thru 8)

SAY \$ 14,610,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure Removal</u>
Bridge Name	SPUI	SR99/RR
Structure Type	-	Removal
Width (out to out) - (ft)	-	-
Length - (ft)	-	-
Total Area -(ft ²)	180,750.00	17,272.00
Footing Type (pile/spread)	Pile	-
Cost per ft ²	\$250	\$15
Bridge (cost)	\$ 45,187,500	\$ 259,080
Contingency (20%)	\$9,037,500	\$51,816
Mobilization (10%)	\$4,518,750	\$25,908
Total Cost For Structure	\$ 58,743,750	\$ 336,804

Subtotal Structures Items \$ 59,080,554
(Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 59,080,554
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 5,006,910
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ 5,506,910

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. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 49.95

PROJECT DESCRIPTION:

Perkins Avenue Interchange

Limits:

Proposed Improvement (Scope):

Construct Interchange:

1) Construction of SB On/Off "Hook" Ramps

2) Reconstruction of 1st Street between Sherwood Ave. and Perkins Ave. to accomodate the "Couplet" configuration

3) Reconstruction of the frontage road between the Sherwood Ave. Access Ramp overcrossing and the Perkins Ave. overcrossing to accomodate the "Couplet" configuration

Alternative: Couplet #1 Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	<u>\$ 7,110,000</u>
TOTAL STRUCTURE ITEMS	<u>\$ -</u>
SUBTOTAL CONSTRUCTION COSTS	<u>\$ 7,110,000</u>
TOTAL RIGHT OF WAY ITEMS	<u>\$ 922,590</u>
TOTAL ALTERNATIVE COST	<u>\$ 8,032,590</u>

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	26,317	CY	\$ 20.00	\$ 526,339
Clearing & Grubbing	1	LS	\$ 50,000.00	\$ 50,000
Remove Unsuitable Material	1	LS	\$ 75,000.00	\$ 75,000
Imported Borrow	(19,257)	CY	\$ 25.00	\$ (481,428)

Subtotal Earthwork \$ 169,911

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	312,324	SF	\$ 10.00	\$ 3,123,240

Subtotal Pavement Structural Section \$ 3,123,240

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 300,000.00	\$ 300,000

Subtotal Drainage \$ 300,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	-	LF	\$ 20.00	\$ -
Water Pollution Control	1	LS	\$ 100,000.00	\$ 100,000
Landscaping and Aesthetic Treatment	1	LS	\$ 50,000.00	\$ 50,000
Environmental Compliance	1	LS	\$ 50,000.00	\$ 50,000
Resident Engineer Office Space	1	EA	\$ 10,000.00	\$ 10,000
			Subtotal Specialty Items	\$ 210,000

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	8,229	LF	\$ 30.00	\$ 246,870
Traffic Signals (Complete Intersection)	-	EA	\$ 200,000.00	\$ -
Overhead Signs	2	EA	\$ 100,000.00	\$ 200,000
Construction Area Signs	1	LS	\$ 40,000.00	\$ 40,000
Traffic Control	1	LS	\$ 100,000.00	\$ 100,000
Roadside Signs	1	LS	\$ 20,000.00	\$ 20,000
Pavement Delineation	25,040	LF	\$ 2.00	\$ 50,080
			Subtotal Traffic Items Section	\$ 656,950

TOTAL SECTIONS 1 thru 5	\$ 4,460,101
--------------------------------	---------------------

Section 6. Minor Items

\$ 4,460,101 x (10%) = \$ 446,010
 (Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 446,010

Section 7. Roadway Mobilization

\$ 4,906,111 x (10%) = \$ 490,611
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 490,611

Section 8. Roadway Additions

Supplemental Work

\$ 4,906,111 x (10%) = \$ 490,611
 (Subtotal Sections 1 thru 6)

Contingencies

\$ 4,906,111 x (25%) = \$ 1,226,528
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 1,717,139

TOTAL ROADWAY ITEMS \$ 7,113,861

(Subtotal Sections 1 thru 8)

SAY \$ 7,110,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

II. STRUCTURES ITEMS

Bridge Name
 Structure Type
 Width (out to out) - (ft)
 Length - (ft)
 Total Area -(ft²)
 Footing Type (pile/spread)
 Cost per ft²
 Bridge (cost)
 Contingency (20%)
 Mobilization (10%)
 Total Cost For Structure

Subtotal Structures Items \$ _____ -
 (Sum of Total Cost for Structures)

Railroad Related Costs:

		\$ -
		\$ -
		\$ -
Subtotal Railroad Items		\$ -

TOTAL STRUCTURES ITEMS \$ _____ -
 (Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	Reimond H. Garcia, P.E. (Print Name)	Phone #	916-368-9181	Date	10/25/2011
Estimate Checked By	Robert Ferguson, P.E. (Print Name)	Phone #	916-368-9181	Date	10/25/2011

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 622,590
B. Utility Relocation (State Share)	\$ 300,000
TOTAL RIGHT OF WAY ITEMS	\$ 922,590

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. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 49.95

PROJECT DESCRIPTION:

Perkins Avenue Interchange

Limits:

Proposed Improvement (Scope):

Construct Interchange:

- 1) Construction of Sherwood Ave. overcrossing over SR-99
- 2) Construction of Perkins Ave. overcrossing over SR-99
- 3) Railroad Overcrossing (Sherwood)
- 4) Railroad Overcrossing (Perkins)
- 5) Construction of SB On and NB Off- Ramps to accomodate the "Couplet" configuration (Sherwood)
- 6) Construction of SB Off and NB On-Ramps to accomodate the "Couplet" configuration (Perkins)
- 7) Reconstruction of the frontage road between Sherwood Ave. and Perkins Ave. to accomodate the "Couplet" configuration
- 8) Reconstruction of 1st Street between Sherwood Ave. and Perkins Ave. to accomodate the "Couplet" configuration
- 9) Widen SR-99 1 lane in the NB/SB directions

Alternative: Couplet #2 Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	<u>\$ 37,300,000</u>
TOTAL STRUCTURE ITEMS	<u>\$ 9,095,437</u>
SUBTOTAL CONSTRUCTION COSTS	<u>\$ 46,395,437</u>
TOTAL RIGHT OF WAY ITEMS	<u>\$ 27,088,660</u>
TOTAL ALTERNATIVE COST	<u>\$ 73,484,097</u>

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/3/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS

Section 1. Earthwork

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	50,305	CY	\$ 20.00	\$ 1,006,093
Clearing & Grubbing	1	LS	\$ 200,000.00	\$ 200,000
Remove Unsuitable Material	1	LS	\$ 40,000.00	\$ 40,000
Imported Borrow	334,326	CY	\$ 25.00	\$ 8,358,155
			<u>Subtotal Earthwork</u>	<u>\$ 9,604,248</u>

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	798,224	SF	\$ 10.00	\$ 7,982,240
			<u>Subtotal Pavement Structural Section</u>	<u>\$ 7,982,240</u>

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	#####	\$ 1,000,000
			<u>Subtotal Drainage</u>	<u>\$ 1,000,000</u>

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	9,832	LF	\$ 20.00	\$ 196,640
Water Pollution Control	1	LS	\$ 300,000.00	\$ 300,000
Landscaping and Aesthetic Treatment	1	LS	\$ 160,000.00	\$ 160,000
Environmental Compliance	1	LS	\$ 200,000.00	\$ 200,000
Resident Engineer Office Space	1	EA	\$ 500,000.00	\$ 500,000
			<u>Subtotal Specialty Items</u>	<u>\$ 1,356,640</u>

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	19,007	LF	\$ 30.00	\$ 570,210
Traffic Signals (Complete Intersection)	4	EA	\$ 200,000.00	\$ 800,000
Overhead Signs	12	EA	\$ 100,000.00	\$ 1,200,000
Construction Area Signs	1	LS	\$ 120,000.00	\$ 120,000
Traffic Control	1	LS	\$ 500,000.00	\$ 500,000
Roadside Signs	1	LS	\$ 80,000.00	\$ 80,000
Pavement Delineation	85,076	LF	\$ 2.00	\$ 170,152
			<u>Subtotal Traffic Items Section</u>	<u>\$ 3,440,362</u>

TOTAL SECTIONS 1 thru 5 **\$ 23,383,490**

Section 6. Minor Items

\$ 23,383,490 x (10%) = \$ 2,338,349
 (Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 2,338,349

Section 7. Roadway Mobilization

\$ 25,721,839 x (10%) = \$ 2,572,184
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 2,572,184

Section 8. Roadway Additions

Supplemental Work

\$ 25,721,839 x (10%) = \$ 2,572,184
 (Subtotal Sections 1 thru 6)

Contingencies

\$ 25,721,839 x (25%) = \$ 6,430,460
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 9,002,644

TOTAL ROADWAY ITEMS \$ 37,296,667

(Subtotal Sections 1 thru 8)

SAY \$ 37,300,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/3/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/3/2011
 (Print Name)

II. STRUCTURES ITEMS

	<u>Sherwood</u>		<u>Perkins</u>		<u>Structure</u>
	<u>Structure (1)</u>	<u>Structure (2)</u>	<u>Structure (1)</u>	<u>Structure (2)</u>	<u>Removal</u>
Bridge Name	SR99	Railroad	SR99	Railroad	SR99/RR
Structure Type	CIP/PS Box	CIP/PS Box	CIP/PS Box	CIP/PS Box	Removal
Width (out to out) - (ft)	-	-	-	-	-
Length - (ft)	-	-	-	-	-
Total Area -(ft ²)	9,584.00	6,697.00	9,285.00	6,824.00	34,566.00
Footing Type (pile/spread)	Pile	Pile	Pile	Pile	-
Cost per ft ²	\$200	\$200	\$200	\$200	\$15
Bridge (cost)	\$ 1,916,800	\$ 1,339,400	\$ 1,857,000	\$ 1,364,800	\$ 518,490
Contingency (20%)	\$383,360	\$267,880	\$371,400	\$272,960	\$103,698
Mobilization (10%)	\$191,680	\$133,940	\$185,700	\$136,480	\$51,849
Total Cost For Structure	\$ 2,491,840	\$ 1,741,220	\$ 2,414,100	\$ 1,774,240	\$ 674,037

Subtotal Structures Items \$ 9,095,437
 (Sum of Total Cost for Structures)

Railroad Related Costs:

	\$ -
	\$ -
	\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 9,095,437
 (Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/3/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/3/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 26,088,660
B. Utility Relocation (State Share)	\$ 1,000,000
TOTAL RIGHT OF WAY ITEMS	\$ 27,088,660

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	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/3/2011</u>
Estimate Checked By	<u>Carl H. Gibson III, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/3/2011</u>

Preliminary Estimate of Construction Costs

06-KER-99, PM 50.40

PROJECT DESCRIPTION:

Elmo Highway Interchange

Limits:

Proposed Improvement (Scope): Construct Interchange:
1) Reconstruction of Elmo Hwy. overcrossing over SR-99
2) Railroad Overcrossing
3) Construction of NB/SB On/Off-Ramps in a Type L-1 ("Tight Diamond") configuration
4) Realignment of SR-99 to accomodate the "Tight Diamond" configuration
5) Realignment of Davis Avenue to accomodate the "Tight Diamond" configuration

Alternative: **Tight Diamond Alternative**

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ 35,010,000
TOTAL STRUCTURE ITEMS	\$ 4,576,000
SUBTOTAL CONSTRUCTION COSTS	\$ 39,586,000
TOTAL RIGHT OF WAY ITEMS	\$ 10,581,865
TOTAL ALTERNATIVE COST	\$ 50,167,865

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	103,795	CY	\$ 20.00	\$ 2,075,898
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	233,243	CY	\$ 25.00	\$ 5,831,073

Subtotal Earthwork \$ 8,206,971

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	1,041,318	SF	\$ 10.00	\$ 10,413,180

Subtotal Pavement Structural Section \$ 10,413,180

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000

Subtotal Drainage \$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	6,881	LF	\$ 20.00	\$ 137,620
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
			<u>Subtotal Specialty Items</u>	<u>\$ 492,620</u>

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	22,284	LF	\$ 30.00	\$ 668,520
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
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	83,995	LF	\$ 2.00	\$ 167,990
			<u>Subtotal Traffic Items Section</u>	<u>\$ 2,186,510</u>

TOTAL SECTIONS 1 thru 5 **\$ 21,949,281**

Section 6. Minor Items

\$ 21,949,281 x (10%) = \$ 2,194,928
(Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 2,194,928

Section 7. Roadway Mobilization

\$ 24,144,209 x (10%) = \$ 2,414,421
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 2,414,421

Section 8. Roadway Additions

Supplemental Work
\$ 24,144,209 x (10%) = \$ 2,414,421
(Subtotal Sections 1 thru 6)

Contingencies
\$ 24,144,209 x (25%) = \$ 6,036,052
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 8,450,473

TOTAL ROADWAY ITEMS \$ 35,009,103
(Subtotal Sections 1 thru 8)

SAY \$ 35,010,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>
Bridge Name	SR99	Railroad
Structure Type	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	44.00	44.00
Length - (ft)	250.00	150.00
Total Area -(ft ²)	11,000.00	6,600.00
Footing Type (pile/spread)	Pile	Pile
Cost per ft ²	\$200	\$200
Bridge (cost)	\$ 2,200,000	\$ 1,320,000
Contingency (20%)	\$440,000	\$264,000
Mobilization (10%)	\$220,000	\$132,000
Total Cost For Structure	\$ 2,860,000	\$ 1,716,000

Subtotal Structures Items \$ 4,576,000
(Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 4,576,000
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 10,081,865
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ 10,581,865

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. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 50.40

PROJECT DESCRIPTION:

Elmo Highway Interchange

Limits:

Proposed Improvement (Scope): Construct Interchange:
1) Reconstruction of Elmo Hwy. overcrossing over SR-99
2) Railroad Overcrossing
3) Construction of NB/SB On/Off-Ramps in a Type L-2 ("Spread Diamond") configuration
4) Realignment of SR-99 to accomodate the "Spread Diamond" configuration
5) Realignment of Davis Avenue to accomodate the "Spread Diamond" configuration

Alternative: Spread Diamond Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	<u>\$ 35,940,000</u>
TOTAL STRUCTURE ITEMS	<u>\$ 4,862,000</u>
SUBTOTAL CONSTRUCTION COSTS	<u>\$ 40,802,000</u>
TOTAL RIGHT OF WAY ITEMS	<u>\$ 14,536,060</u>
TOTAL ALTERNATIVE COST	<u>\$ 55,338,060</u>

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	104,195	CY	\$ 20.00	\$ 2,083,907
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	246,381	CY	\$ 25.00	\$ 6,159,527
				<u><u>Subtotal Earthwork</u></u>
				\$ 8,543,434

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	1,066,011	SF	\$ 10.00	\$ 10,660,110
				<u><u>Subtotal Pavement Structural Section</u></u>
				\$ 10,660,110

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000
				<u><u>Subtotal Drainage</u></u>
				\$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	6,903	LF	\$ 20.00	\$ 138,060
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 \$ 493,060

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	22,148	LF	\$ 30.00	\$ 664,440
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
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	86,436	LF	\$ 2.00	\$ 172,872

Subtotal Traffic Items Section \$ 2,187,312

TOTAL SECTIONS 1 thru 5 \$ 22,533,916

Section 6. Minor Items

\$ 22,533,916 x (10%) = \$ 2,253,392
(Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 2,253,392

Section 7. Roadway Mobilization

\$ 24,787,307 x (10%) = \$ 2,478,731
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 2,478,731

Section 8. Roadway Additions

Supplemental Work
\$ 24,787,307 x (10%) = \$ 2,478,731
(Subtotal Sections 1 thru 6)

Contingencies
\$ 24,787,307 x (25%) = \$ 6,196,827
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 8,675,558

TOTAL ROADWAY ITEMS \$ 35,941,596
(Subtotal Sections 1 thru 8)

SAY \$ 35,940,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>
Bridge Name	SR99	Railroad
Structure Type	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	44.00	44.00
Length - (ft)	275.00	150.00
Total Area -(ft ²)	12,100.00	6,600.00
Footing Type (pile/spread)	Pile	Pile
Cost per ft ²	\$200	\$200
Bridge (cost)	\$ 2,420,000	\$ 1,320,000
Contingency (20%)	\$484,000	\$264,000
Mobilization (10%)	\$242,000	\$132,000
Total Cost For Structure	\$ 3,146,000	\$ 1,716,000

Subtotal Structures Items \$ 4,862,000
 (Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 4,862,000
 (Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 14,036,060
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ 14,536,060

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. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 50.40

PROJECT DESCRIPTION:

Elmo Highway Interchange

Limits:

Proposed Improvement (Scope): Construct Interchange:
1) Reconstruction of Elmo Hwy. overcrossing over SR-99
2) Railroad Overcrossing
3) Construction of NB/SB On/Off-Ramps in a Type L-7 ("Partial Cloverleaf") configuration
4) Realignment of SR-99 to accomodate the "Partial Cloverleaf" configuration
5) Realignment of Davis Avenue to accomodate the "Partial Cloverleaf" configuration

Alternative: Partial Cloverleaf Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	<u>\$ 38,880,000</u>
TOTAL STRUCTURE ITEMS	<u>\$ 4,862,000</u>
SUBTOTAL CONSTRUCTION COSTS	<u>\$ 43,742,000</u>
TOTAL RIGHT OF WAY ITEMS	<u>\$ 14,536,060</u>
TOTAL ALTERNATIVE COST	<u>\$ 58,278,060</u>

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	103,229	CY	\$ 20.00	\$ 2,064,578
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	290,937	CY	\$ 25.00	\$ 7,273,435

Subtotal Earthwork \$ 9,638,013

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	1,124,312	SF	\$ 10.00	\$ 11,243,120

Subtotal Pavement Structural Section \$ 11,243,120

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000

Subtotal Drainage \$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	6,903	LF	\$ 20.00	\$ 138,060
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 \$ 493,060

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	24,026	LF	\$ 30.00	\$ 720,780
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
Overhead Signs	7	EA	\$ 100,000.00	\$ 700,000
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	92,160	LF	\$ 2.00	\$ 184,320

Subtotal Traffic Items Section \$ 2,355,100

TOTAL SECTIONS 1 thru 5 \$ 24,379,293

Section 6. Minor Items

\$ 24,379,293 x (10%) = \$ 2,437,929
(Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 2,437,929

Section 7. Roadway Mobilization

\$ 26,817,222 x (10%) = \$ 2,681,722
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 2,681,722

Section 8. Roadway Additions

Supplemental Work
\$ 26,817,222 x (10%) = \$ 2,681,722
(Subtotal Sections 1 thru 6)

Contingencies
\$ 26,817,222 x (25%) = \$ 6,704,306
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 9,386,028

TOTAL ROADWAY ITEMS \$ 38,884,972
(Subtotal Sections 1 thru 8)

SAY \$ 38,880,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>
Bridge Name	SR99	Railroad
Structure Type	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	44.00	44.00
Length - (ft)	275.00	150.00
Total Area -(ft ²)	12,100.00	6,600.00
Footing Type (pile/spread)	Pile	Pile
Cost per ft ²	\$200	\$200
Bridge (cost)	\$ 2,420,000	\$ 1,320,000
Contingency (20%)	\$484,000	\$264,000
Mobilization (10%)	\$242,000	\$132,000
Total Cost For Structure	\$ 3,146,000	\$ 1,716,000

Subtotal Structures Items \$ 4,862,000
(Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 4,862,000
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 14,036,060
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ 14,536,060

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. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 50.97

PROJECT DESCRIPTION:

North McFarland Road Interchange

Limits:

Proposed Improvement (Scope):

Construct Interchange:

1) Construction of McFarland Road overcrossing over SR-99

2) Railroad Overcrossing

3) Construction of NB/SB On/Off-Ramps in a Type L-1 ("Tight Diamond") configuration

4) Realignment of SR-99 to accomodate the "Tight Diamond" configuration

5) Realignment of Davis Avenue to accomodate the "Tight Diamond" configuration

Alternative: Tight Diamond Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ 34,890,000
TOTAL STRUCTURE ITEMS	\$ 4,461,600
SUBTOTAL CONSTRUCTION COSTS	\$ 39,351,600
TOTAL RIGHT OF WAY ITEMS	\$ 8,147,665
TOTAL ALTERNATIVE COST	\$ 47,499,265

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	94,496	CY	\$ 20.00	\$ 1,889,911
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	264,251	CY	\$ 25.00	\$ 6,606,277

Subtotal Earthwork \$ 8,796,188

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	983,161	SF	\$ 10.00	\$ 9,831,610

Subtotal Pavement Structural Section \$ 9,831,610

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000

Subtotal Drainage \$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	4,784	LF	\$ 20.00	\$ 95,680
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	\$ 450,680

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	21,125	LF	\$ 30.00	\$ 633,750
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
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	80,183	LF	\$ 2.00	\$ 160,366
			Subtotal Traffic Items Section	\$ 2,144,116

TOTAL SECTIONS 1 thru 5 **\$ 21,872,594**

Section 6. Minor Items

\$ 21,872,594 x (10%) = \$ 2,187,259
 (Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 2,187,259

Section 7. Roadway Mobilization

\$ 24,059,854 x (10%) = \$ 2,405,985
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 2,405,985

Section 8. Roadway Additions

Supplemental Work

\$ 24,059,854 x (10%) = \$ 2,405,985
 (Subtotal Sections 1 thru 6)

Contingencies

\$ 24,059,854 x (25%) = \$ 6,014,963
 (Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 8,420,949

TOTAL ROADWAY ITEMS \$ 34,886,788

(Subtotal Sections 1 thru 8)

SAY \$ 34,890,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
 (Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>
Bridge Name	SR99	Railroad
Structure Type	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	44.00	44.00
Length - (ft)	240.00	150.00
Total Area -(ft ²)	10,560.00	6,600.00
Footing Type (pile/spread)	Pile	Pile
Cost per ft ²	\$200	\$200
Bridge (cost)	\$ 2,112,000	\$ 1,320,000
Contingency (20%)	\$422,400	\$264,000
Mobilization (10%)	\$211,200	\$132,000
Total Cost For Structure	\$ 2,745,600	\$ 1,716,000

Subtotal Structures Items \$ 4,461,600
 (Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 4,461,600
 (Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 7,647,665
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ 8,147,665

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. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 50.97

PROJECT DESCRIPTION:

North McFarland Road Interchange

Limits:

Proposed Improvement (Scope):

Construct Interchange:

1) Construction of McFarland Road overcrossing over SR-99

2) Railroad Overcrossing

3) Construction of NB/SB On/Off-Ramps in a Type L-2 ("Spread Diamond") configuration

4) Realignment of SR-99 to accomodate the "Spread Diamond" configuration

5) Realignment of Davis Avenue to accomodate the "Spread Diamond" configuration

Alternative: Spread Diamond Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	<u>\$ 37,340,000</u>
TOTAL STRUCTURE ITEMS	<u>\$ 4,576,000</u>
SUBTOTAL CONSTRUCTION COSTS	<u>\$ 41,916,000</u>
TOTAL RIGHT OF WAY ITEMS	<u>\$ 9,787,955</u>
TOTAL ALTERNATIVE COST	<u>\$ 51,703,955</u>

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	95,074	CY	\$ 20.00	\$ 1,901,477
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	315,457	CY	\$ 25.00	\$ 7,886,434

Subtotal Earthwork \$ 10,087,911

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	1,009,577	SF	\$ 10.00	\$ 10,095,770

Subtotal Pavement Structural Section \$ 10,095,770

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000

Subtotal Drainage \$ 650,000

Section 4. Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	2,507	LF	\$ 20.00	\$ 50,140
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 \$ 405,140

Section 5. Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	21,964	LF	\$ 30.00	\$ 658,920
Traffic Signals (Complete Intersection)	2	EA	\$ 200,000.00	\$ 400,000
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	82,474	LF	\$ 2.00	\$ 164,948

Subtotal Traffic Items Section \$ 2,173,868

TOTAL SECTIONS 1 thru 5 \$ 23,412,689

Section 6. Minor Items

\$ 23,412,689 x (10%) = \$ 2,341,269
(Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 2,341,269

Section 7. Roadway Mobilization

\$ 25,753,958 x (10%) = \$ 2,575,396
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 2,575,396

Section 8. Roadway Additions

Supplemental Work
\$ 25,753,958 x (10%) = \$ 2,575,396
(Subtotal Sections 1 thru 6)

Contingencies
\$ 25,753,958 x (25%) = \$ 6,438,489
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 9,013,885

TOTAL ROADWAY ITEMS \$ 37,343,239
(Subtotal Sections 1 thru 8)

SAY \$ 37,340,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>
Bridge Name	SR99	Railroad
Structure Type	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	44.00	44.00
Length - (ft)	250.00	150.00
Total Area -(ft ²)	11,000.00	6,600.00
Footing Type (pile/spread)	Pile	Pile
Cost per ft ²	\$200	\$200
Bridge (cost)	\$ 2,200,000	\$ 1,320,000
Contingency (20%)	\$440,000	\$264,000
Mobilization (10%)	\$220,000	\$132,000
Total Cost For Structure	\$ 2,860,000	\$ 1,716,000

Subtotal Structures Items \$ 4,576,000
 (Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -
		\$ -
	Subtotal Railroad Items	\$ <u>-</u>

TOTAL STRUCTURES ITEMS \$ 4,576,000
 (Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 9,287,955
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ <u>9,787,955</u>

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. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Preliminary Estimate of Construction Costs

06-KER-99, PM 50.97

PROJECT DESCRIPTION:

North McFarland Road Interchange

Limits:

Proposed Improvement (Scope):

Construct Interchange:

1) Construction of McFarland Road overcrossing over SR-99

2) Railroad Overcrossing

3) Construction of SB On/Off-Ramps in a Type L-7 ("Partial Cloverleaf") configuration

4) Realignment of SR-99 to accomodate the "Partial Cloverleaf" configuration

5) Realignment of Davis Avenue to accomodate the "Partial Cloverleaf" configuration

Alternative: Partial Cloverleaf Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	<u>\$ 40,820,000</u>
TOTAL STRUCTURE ITEMS	<u>\$ 4,576,000</u>
SUBTOTAL CONSTRUCTION COSTS	<u>\$ 45,396,000</u>
TOTAL RIGHT OF WAY ITEMS	<u>\$ 9,787,955</u>
TOTAL ALTERNATIVE COST	<u>\$ 55,183,955</u>

Reviewed by Consultant Project Engineer

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

Approved by Consultant Project Manager

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

Date 10/25/2011

Phone Number (916) 368-9181

I. ROADWAY ITEMS**Section 1. Earthwork**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Roadway Excavation	94,271	CY	\$ 20.00	\$ 1,885,416
Clearing & Grubbing	1	LS	\$ 100,000.00	\$ 100,000
Remove Unsuitable Material	1	LS	\$ 200,000.00	\$ 200,000
Imported Borrow	373,608	CY	\$ 25.00	\$ 9,340,209

Subtotal Earthwork \$ 11,525,625

Section 2. Pavement Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
New Pavement	1,066,216	SF	\$ 10.00	\$ 10,662,160

Subtotal Pavement Structural Section \$ 10,662,160

Section 3. Drainage, Water, Sewer

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Drainage	1	LS	\$ 650,000.00	\$ 650,000

Subtotal Drainage \$ 650,000

<u>Section 4. Specialty Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Guardrails	<u>3,050</u>	LF	\$ <u>20.00</u>	\$ <u>61,000</u>
Water Pollution Control	<u>1</u>	LS	\$ <u>150,000.00</u>	\$ <u>150,000</u>
Landscaping and Aesthetic Treatment	<u>1</u>	LS	\$ <u>80,000.00</u>	\$ <u>80,000</u>
Environmental Compliance	<u>1</u>	LS	\$ <u>100,000.00</u>	\$ <u>100,000</u>
Resident Engineer Office Space	<u>1</u>	EA	\$ <u>25,000.00</u>	\$ <u>25,000</u>
			<u>Subtotal Specialty Items</u>	<u>\$ 416,000</u>

<u>Section 5. Traffic Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Lighting	<u>23,368</u>	LF	\$ <u>30.00</u>	\$ <u>701,040</u>
Traffic Signals (Complete Intersection)	<u>2</u>	EA	\$ <u>200,000.00</u>	\$ <u>400,000</u>
Overhead Signs	<u>7</u>	EA	\$ <u>100,000.00</u>	\$ <u>700,000</u>
Construction Area Signs	<u>1</u>	LS	\$ <u>60,000.00</u>	\$ <u>60,000</u>
Traffic Control	<u>1</u>	LS	\$ <u>250,000.00</u>	\$ <u>250,000</u>
Roadside Signs	<u>1</u>	LS	\$ <u>40,000.00</u>	\$ <u>40,000</u>
Pavement Delineation	<u>93,250</u>	LF	\$ <u>2.00</u>	\$ <u>186,500</u>
			<u>Subtotal Traffic Items Section</u>	<u>\$ 2,337,540</u>

TOTAL SECTIONS 1 thru 5 **\$ 25,591,325**

Section 6. Minor Items

\$ 25,591,325 x (10%) = \$ 2,559,132
(Subtotal Sections 1 thru 5)

Subtotal Minor Items \$ 2,559,132

Section 7. Roadway Mobilization

\$ 28,150,457 x (10%) = \$ 2,815,046
(Subtotal Sections 1 thru 6)

Subtotal Roadway Mobilization \$ 2,815,046

Section 8. Roadway Additions

Supplemental Work
\$ 28,150,457 x (10%) = \$ 2,815,046
(Subtotal Sections 1 thru 6)

Contingencies
\$ 28,150,457 x (25%) = \$ 7,037,614
(Subtotal Sections 1 thru 6)

Subtotal Roadway Additions \$ 9,852,660

TOTAL ROADWAY ITEMS \$ 40,818,163

(Subtotal Sections 1 thru 8)

SAY \$ 40,820,000

Estimate Prepared By Reimond H. Garcia, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

II. STRUCTURES ITEMS

	<u>Structure (1)</u>	<u>Structure (2)</u>
Bridge Name	SR99	Railroad
Structure Type	CIP/PS Box	CIP/PS Box
Width (out to out) - (ft)	44.00	44.00
Length - (ft)	250.00	150.00
Total Area -(ft ²)	11,000.00	6,600.00
Footing Type (pile/spread)	Pile	Pile
Cost per ft ²	\$200	\$200
Bridge (cost)	\$ 2,200,000	\$ 1,320,000
Contingency (20%)	\$440,000	\$264,000
Mobilization (10%)	\$220,000	\$132,000
Total Cost For Structure	\$ 2,860,000	\$ 1,716,000

Subtotal Structures Items \$ 4,576,000
(Sum of Total Cost for Structures)

Railroad Related Costs:		\$ -
		\$ -
		\$ -

Subtotal Railroad Items \$ -

TOTAL STRUCTURES ITEMS \$ 4,576,000
(Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By	<u>Reimond H. Garcia, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>
Estimate Checked By	<u>Robert Ferguson, P.E.</u> (Print Name)	Phone #	<u>916-368-9181</u>	Date	<u>10/25/2011</u>

III. RIGHT OF WAY ITEMS

	<u>ESCALATED VALUE</u>
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$ 9,287,955
B. Utility Relocation (State Share)	\$ 500,000
TOTAL RIGHT OF WAY ITEMS	\$ <u>9,787,955</u>

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. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Estimate Checked By Carl H. Gibson III, P.E. **Phone #** 916-368-9181 **Date** 10/25/2011
(Print Name)

Attachment H - Project Development Team Roster

<u>Interchange Feasibility Studies PDT Group</u>			
<u>Organization</u>	<u>Name</u>	<u>E-mail Address</u>	<u>Phone #</u>
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 McFarland	John Wooner	jwooner@mcfarlandcity.org	(661)792-3091
City of McFarland	Dennis McNamara	dmcnamara@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 Pickett Public Relations	Larry Pickett	lpickett@lightspeed.net	(661) 792-3091