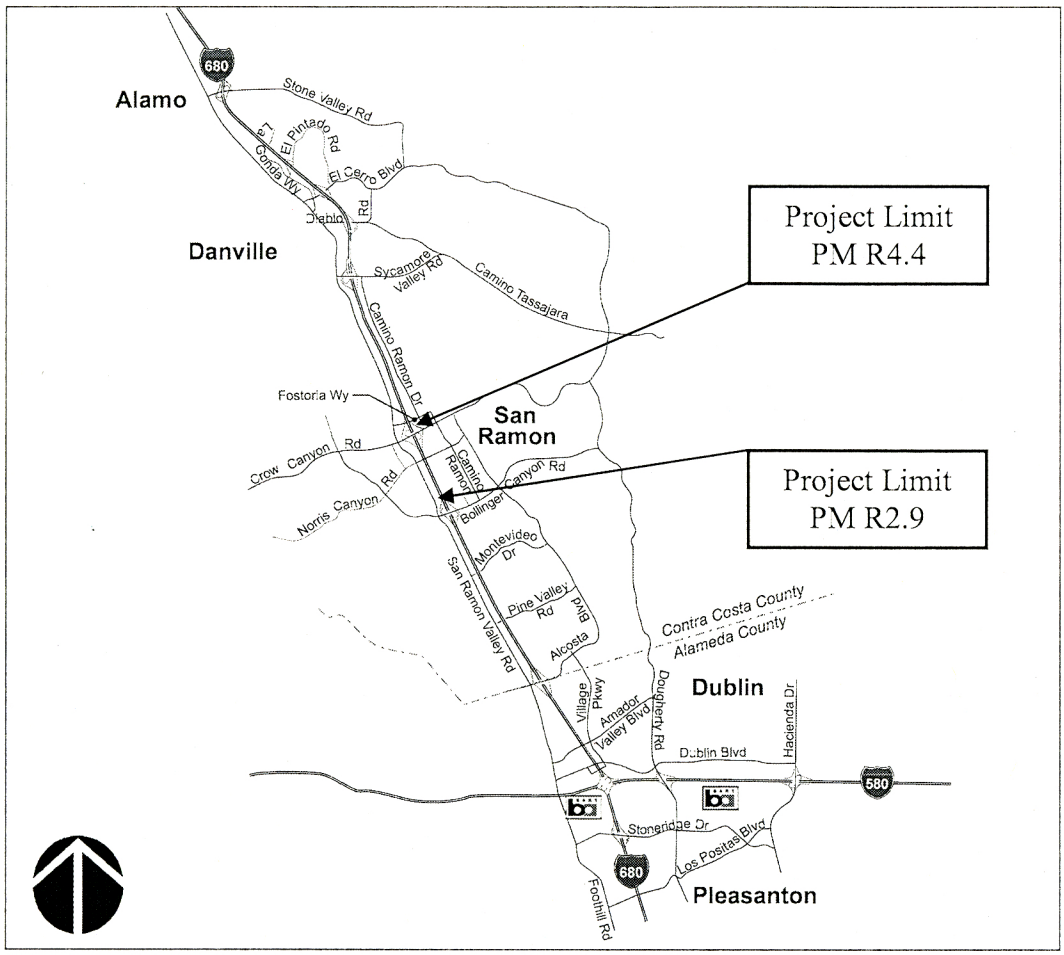
04 - CC - 680 – PM R2.9-R4.4
EA 04-3A860K

PROJECT STUDY REPORT
TO REQUEST CONCEPTUAL APPROVAL



I-680 / Norris Canyon Road Direct HOV Ramps

On Route: Interstate 680
Between Bollinger Canyon Road Overcrossing and Fostoria Way Overcrossing in Contra Costa County

APPROVAL RECOMMENDED: _____
YADOLLAH FATHOLLAHI, PROJECT MANAGER

APPROVED: _____ 3-16-10
BIJAN SARTIPI, DISTRICT DIRECTOR *DATE*

This Project Study Report has been prepared under the direction of the following Registered Engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

MAN-SAN CHIO, REGISTERED CIVIL ENGINEER — 1/14/2010 *DATE*

REGISTERED PROFESSIONAL ENGINEER
Man-San Chio
No. C64463
Exp. 06/30/2011
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PATRICK K. PANG, OFFICE CHIEF
OFFICE OF ADVANCE PLANNING — 3/2/10 *DATE*

Table of Contents

1. INTRODUCTION

This project study report proposes the construction of high occupancy vehicle (HOV) and express bus on and off-ramps connecting directly to and from the northbound and southbound median HOV lanes of Interstate 680 (I-680) to a replaced Norris Canyon Road Overcrossing in San Ramon, Contra Costa County.

In 2004, Contra Costa County voters approved Measure J, which will continue the County's half-cent transportation sales tax program to 2034. The Measure J Expenditure Plan includes funding for improvements along the I-680 corridor; including the "I-680 Carpool Lane Gap Closure/Transit Corridor Improvements." One component of the improvements is the addition of bus/carpool/vanpools on and off-ramps at Norris Canyon Road.

The preliminary capital cost for the proposed build alternative is $64.5 million, based on 2009 construction cost data. It is anticipated that project costs will be escalated to 2016, the proposed midpoint construction year. Partial funding is identified for the project in the Contra Costa Transportation Authority (CCTA) 2007 Measure J Strategic Plan. Additional funding will be pursued for this project.

See the Cost estimate for specific work items included in this project.

Project Limits (Dist., Co., Rte., PM)	04-CC-680 – PM R2.7-R4.4
Number of Alternatives:	2
Alternative Recommended for Programming:	Build Alternative
Proposed Capital Construction Costs	63.7 million (unescalated)
Proposal Capital Right of Way Costs:	0.80 million (unescalated)
Funding Source:	CCTA Measure J, Tri-Valley Transportation Development Fund, and To Be Determined
Type of Facility (conventional, expressway, freeway):	Freeway
Number of Structures:	1
Anticipated Environmental Determination/Document	Initial Study/ Negative Declaration under CEQA; Categorical Exclusion under NEPA
Legal Description	Construct HOV Direct On- and Off-Ramps at Norris Canyon Road Overcrossing on I-680 in San Ramon

A preferred alternative will be selected in the Project Approval & Environmental Document (PA/ED) phase and will be approved by a Project Report (PR).

2. BACKGROUND

Existing Facility:

I-680 is an important north-south freeway that connects I-80 in Fairfield / Cordelia to I-280 in San Jose. It serves as a major East Bay commute and goods movement route. Within the project area, I-680 connects the cities of San Ramon, Dublin and Pleasanton to the south and towns of Danville and Alamo and the City of Walnut Creek to the north.

I-680 is an eight-lane freeway facility within the project limits, with three mixed-flow lanes and one HOV lane in each direction. An auxiliary lane was recently completed between the Bollinger Canyon Road and Crow Canyon Road interchanges, increasing the total number of available lanes from eight to ten for this short distance. Lane widths on the existing freeway conform to the Caltrans standard of twelve feet. Shoulder widths are also standard except for spot locations where bridge columns narrow the median shoulder to less than ten feet. The Annual Average Daily Traffic (AADT) on I-680 is 93,700 in the northbound direction and 91,000 in the southbound direction.

Due to projected regional and local growth in the East Bay and San Ramon, this project was identified as a key improvement in the May 2003 I-680 Investment Options Analysis Study, which included improvements to make I-680 an Express Bus and HOV corridor. Expansion of transit and HOV facilities in the study area supports the goals of the City of San Ramon and its General Plan to provide greater multi-modal mobility among residents, workers and visitors.

3. PURPOSE AND NEED STATEMENT

Need:

The project is needed to provide direct HOV and express bus access from/to destinations in San Ramon, thereby benefiting the San Ramon Valley/Tri-Valley areas. Currently, express buses and HOVs accessing I-680 from the existing interchanges in San Ramon must cross 3 lanes of traffic in order to access dedicated HOV lanes. By reducing the amount of weaving by HOVs and express buses entering or exiting the freeway, the project would reduce travel times.

A reduction in express bus and HOV travel times to access San Ramon destinations (San Ramon Transit Center, Bishop Ranch Business Park, planned City Center mixed-use project, other commercial business and residences) is needed to make travel times for express buses and HOVs traveling to/from this corridor more consistent. More consistent travel times would result in fewer schedule uncertainties and improved express bus operations and service. More consistent travel times also would improve local and regional system linkages. Further, as travel times along this portion of I-680 improve, ridesharing would be encouraged.

The project also is needed to improve modal interrelationships within the project corridor. Intermodal connectivity would be improved by enhancing regional express bus access to/from destinations in San Ramon (San Ramon Transit Center, Bishop Ranch Business Park, planned City Center mixed-use project, other commercial business and residences) and I-680, which also provides linkages to three BART stations (Walnut Creek, Dublin/Pleasanton and West Dublin).

Purpose:

The purpose of the proposed project is to:

- provide direct access and reduce travel times for express buses and high occupancy vehicles (HOVs) during peak periods to and along I-680 between Crow Canyon Road and Bollinger Canyon Road;
- improve express bus operations by making travel times more consistent and reducing schedule uncertainty; and
- improve inter-modal connectivity within the San Ramon area.

4. DEFICIENCIES

A traffic operational analysis was prepared for this PSR (see Attachment I for the cover sheet). Based on traffic volume data derived from a number of sources including Caltrans and City of San Ramon, this report identified several operational deficiencies on I-680 for the project study area.

During the AM peak period defined between 6:00 – 10:00 AM, no significant congestion was observed on I-680. However, during the AM peak hour, the queue at the northbound off-ramp at Bollinger Canyon Road overflowed onto the northbound I-680 mainline. The cause of this queue is likely a very high volume of vehicles exiting at northbound Bollinger Canyon Road overloading the signalized intersection at the ramp terminus.

During the PM peak period defined between 3:00 – 7:00 PM, significant levels of congestion were observed in both southbound and northbound directions of I-680 within the study area. It is important to note, however, that the apparent source of the congestion occurs north of Sycamore Valley Road which is outside the study limits. In addition, queuing was observed between 5:00 – 6:00 PM on the southbound off-ramp at Bollinger Canyon Road. The cause of this queue is likely a very high volume of cars exiting at southbound Bollinger Canyon Road overloading the signalized intersection at the ramp terminus. The back of this queue reaches the I-680 mainline leading to a temporary bottleneck.

During the AM and PM peak periods, the local arterial roadway network accessing the Crow Canyon Road and Bollinger Canyon Road interchanges with I-680 experiences severe delays. Significant levels of congestion are observed along the three major arterials: Crow Canyon Road, San Ramon Valley Boulevard, and Bollinger Canyon Road.

Analysis of the year 2040 indicates that if the project is not built, the high number of vehicles projected to use I-680 by the year 2040 would fill this facility to at or near its capacity. When compared with existing conditions, travel times increased and average speeds would decrease. Bottlenecks are projected at diverge points where auxiliary lanes end and the number of available non-HOV lanes along the mainline are reduced from four to three. Transit buses and HOVs that exit at the Crow Canyon Road and Bollinger Canyon Road Interchanges would be subject to queues and delays as a result of the significant congestion along these roadways.

5. CORRIDOR AND SYSTEM COORDINATION

The latest Transportation Corridor Concept Report (TCCR) dated March 15, 2002 is included as Attachment H. As shown on the TCCR, the project location is part of Corridor #7 (Diablo Corridor). The report indicates that presently there are 150 vehicle-hours of delay. This condition is predicted to worsen as stated by percent average daily traffic (ADT) Growth Forecast of 40% for years 2000-2020. The year 2025 highway concept configuration between Crow Canyon Road and the Alameda/Contra Costa County line calls for an eight-lane facility (three mixed-flow lanes plus one HOV lane in each direction). The existing lane configuration is the same as the concept.

The I-680/Norris Canyon Road Direct HOV Ramps project is consistent with plans and policies set forth by all involved agencies, including the Contra Costa Transportation Authority (CCTA), Caltrans, City of San Ramon, the Metropolitan Transportation Commission (MTC), and the Central Contra Costa Transit Authority (aka County Connection). The City of San Ramon has recently been designated a Priority Development Area (PDA) by ABAG and MTC thereby supporting the goals of encouraging greater HOV use and express bus use. By improving access to regional transit connections, the project would support economic development within the San Ramon Valley. Today, approximately 25,000 people work in San Ramon/Bishop Ranch Business Park located adjacent to Norris Canyon Road; of which 25% use a commute alternative (transit, carpool, vanpool, etc.). The project is also consistent with regional plans including the Regional Transportation Plan (RTP), Regional HOV Master Plan, the development of a Bay Area High Occupancy Toll Network (HOT lanes), and Regional Measure 2 legislation. I-680 transit corridor improvements stated in the MTC 2005 RTP (T-2030) include express bus service enhancements and improved connections to BART. Contra Costa County, Measure J projects include I-680 carpool lane gap closures and transit corridor improvements. The 2009 RTP (T-2035) includes the Project (RTP ID# 22352) for a cost of $102 million.

The existing Freeway Agreement between Caltrans and City of San Ramon would have to be modified prior to the project implementation. A master cooperative agreement (Coop. Agreement No. 90.00.02) between Caltrans and CCTA was entered into in 1992 to facilitate sales tax project development through the PA/ED phase. An update to this Cooperative Agreement is underway.

6. ALTERNATIVES

One "build" alternative and the "no-build" alternative were evaluated for this project study report.

A. Alternative 1

The build alternative proposes to construct on- and off-ramps connecting to the I-680 median HOV lanes, in both northbound and southbound directions, at a replaced Norris Canyon Road Overcrossing. The direct ramps are assumed to operate as bus-only ramps at all times with HOVs allowed during peak periods when the mainline HOV lanes are in operation. Alternatives to this assumption may be examined during the PA/ED phase of this project. The proposed on- and off-ramps and the associated auxiliary lanes would be added in the median, and therefore the I-680 mainline lanes would need to be shifted to the outside between Fostoria Way overcrossing postmile (PM) R4.38 and just north of Bollinger Canyon Road overcrossing PM R2.88. See Attachment A for a Project Location Map.

Both directions of the proposed I-680 mainline would have one 12' HOV lane, three 12' mixed-flow lanes and one 12' auxiliary lane, in compliance with current highway design standards for lane widths. To accommodate the proposed HOV facility at Norris Canyon Road, the mainline lanes would undergo a transition that begins at Bollinger Canyon Road and ends at Fostoria Way overcrossing. This transition would consist of restriping and pavement widening. The outside shoulder would be 10' wide to meet standards. The inside shoulder would comply with the 10' standard width, except between Crow Canyon Road and Fostoria Way Overcrossings, where the proposed inside shoulder width varies from 2' to 10'.

A 12' auxiliary lane for a distance of up to 1,000' would be provided in the median upstream and downstream of each HOV ramp, in accordance with the current HOV Guidelines. Both the northbound and southbound HOV off-ramps would be single-lane off-ramps that widen to two lanes near the ramp termini on Norris Canyon Road. The proposed ramps would comply with current highway design standard, and would include one 12' lane, 4' inside shoulder and 8' outside shoulder, or two 12' lanes and a minimum of 2' inside and outside shoulders nearby the ramp intersection. The HOV on- and off-ramps would be constructed on an embankment retained by retaining walls, which would allow the ramp profiles to rise above the existing grade of I-680.

The freeway widening as a result of the project footprint described above would require construction of retaining walls along the proposed outside edge of shoulder to minimize right-of-way impacts. Where shoulder widths are reduced, a type 60R barrier would be used. Widening would also result in the need to reconstruct or remove existing overhead signs, retaining walls, concrete barriers, drainage structures, highway lighting, and highway planting. Temporary construction easements would need to be acquired from several properties abutting the freeway due to construction of the retaining walls.

The proposed replacement of the Norris Canyon Road Overcrossing is recommended to have three through lanes in the eastbound direction, two through lanes in the westbound direction, and one median turn lane between Bishop Drive and San Ramon Valley Boulevard. All six lanes would be 12' wide. Both directions of Norris Canyon Road would also have 5' pedestrian sidewalks and 5' shoulders, which can accommodate a Class II bicycle facility (bicycle lane). The resulting roadway cross section is wider than the existing by approximately 14'. Due to the constraint with vertical clearance along the southern edge of the existing overcrossing, the additional widening would occur on the north side of Norris Canyon Road. This would require realigning the centerline of Norris Canyon Road to the east, and retaining walls along the north side of Norris Canyon Road. Right of way acquisition and temporary construction easements would be needed for construction of the retaining walls and the anticipated utility relocation work.

The proposed replacement of the Norris Canyon Road Overcrossing would be a two-span, precast concrete I-Girder bridge with spans of 112 feet and 114 feet. The precast option is proposed because there is inadequate vertical clearance for falsework to construct a cast-in-place option while maintaining all lanes of traffic on I-680. The abutments for the replacement bridge would be high cantilever abutments supported on driven concrete piles. The bent would consist of a drop cap supported on 4-foot diameter round columns founded on pile caps with driven concrete piles. An Advance Planning Study for the new overcrossing is included in Attachment J.

Several ramps at the Crow Canyon Road Interchange, including the northbound off-ramp, southbound diagonal on-ramp and loop on-ramp, would also need to be slightly realigned as a result of the mainline lane shift.

The typical cross sections, layout and profile drawings for this alternative are included in Attachment B.

Pedestrian Facilities

Consistent with Title VI and ADA requirements, the proposed project makes provisions for low mobility and minority groups. Between San Ramon Valley Boulevard and Bishop Drive, Norris Canyon Road currently has a sidewalk on the north side with an estimated slope of up to 6% on the approach to the Overcrossing. The proposed project adds a 5' sidewalk on the south side of the roadway and maintains the Class II bike lanes. All proposed sidewalks would incorporate accessibility designs that meet ADA standards, such as ADA curb ramps at intersection curb returns and landings where the slope of sidewalk exceeds 5%.

Pavement Structural Section

The assumed pavement structural section for this PSR on I-680 is a long life pavement section, designed to match the recently constructed I-680 Auxiliary Lanes project (EA 04-228554). A Life Cycle Cost Analysis (LCCA) will be completed during the PA/ED phase of this project to confirm this assumption. Matching the Auxiliary lane project, the mainline widening structural section is assumed to include 1.00' Portland Cement Concrete (PCC), 0.50' Lean Concrete Base (LCB), and 0.70' Lime-Treated Subbase (LTS). Additional information can be found in the Pavement Strategy Checklist included in Attachment L.

Staged Construction

The estimated construction time for this alternative is approximately 24 months. Construction of the new Norris Canyon Road Overcrossing is expected to take 18 months. To minimize impacts to traffic circulation in the case of a full bridge closure, the new overcrossing would be built in two stages, maintaining a minimum of two lanes (one lane in each direction) opened to traffic during construction.

All lanes of traffic can remain open during peak flow on I-680 during construction of the Norris Canyon Overcrossing. The replacement structure would include precast bridge girders to account for inadequate vertical clearance for a cast-in-place option.

Additional information on staged construction of the overcrossing can be found in Attachment J.

Right of Way and Utilities

Additional right-of-way would be required to construct the project. Temporary and permanent easements would be required for working in commercial properties. There will be no railroad involvement in this project.

Relocation of most utilities would be concurrent with project construction. There are no above ground utilities located in the area of the project. The majority of the utilities that would require relocation is located on the existing Norris Canyon Road Overcrossing and would be relocated to the new overcrossing. The utilities that would need to be relocated into the new Norris Canyon Overcrossing are:

- Two existing 6" 21kV electrical conduits
- A PG&E 6" gas line with a 12" casing
- A fiber optic communications line
- Two existing 3" conduits for signal interconnect
- A 3" irrigation water line and a 2" sprinkler control conduit
- Six 3-1/2" conduits for telephone and cable owned by AT&T and Comcast.

Utilities outside of the Norris Canyon Overcrossing that would potentially be impacted by the project are:

- A 12" sanitary sewer line owned by the Contra Costa County Sanitation District (CCCSD), which currently crosses under I-680
- A 24" water line crossing under I-680 just north of the existing overcrossing, which is owned by East Bay Municipal Utilities District (EBMUD)

Additional items potentially impacted by the proposed roadway improvements are:

- Street lighting along Norris Canyon Road
- I-680 highway lighting
- Storm drains owned by the City of San Ramon and Caltrans

Additional information on right-of-way and utilities can be found in Right of Way Data Sheet included in Attachment E.

Traffic

The traffic analysis presented in the *Traffic Operations Analysis Report* (TOAR) was based on the assumption that the project ramps would be restricted to buses

only with HOVs allowed during the peak periods when the mainline HOV lanes are in operation. Anticipated benefits of the project include improved travel times, average speeds and vehicle throughput along I-680 including on and off-ramps, a reduced number of accidents related to the weaving and lane changing of HOVs along I-680, and a shorter average vehicle delay at most study intersections. Additionally, the travel times of HOVs (including buses and privately operated vanpools) during peak periods are expected to improve.

The proposed project would alter the traffic flow patterns within the study area. During the peak periods, most buses and many HOVs would be re-directed from the Crow Canyon Road and Bollinger Canyon Road interchanges to the Norris Canyon Road interchange. These buses and HOVs would have the benefit of remaining in the HOV lane to access the study area and entering directly into the HOV lanes when getting onto I-680, thus decreasing the amount of lane weaving for HOVs along I-680. The benefits of this re-distribution of traffic and reduction in weaving maneuvers include improved travel times and average speeds in the mixed-flow lanes, as well as increased total and HOV lane throughput under Alternative 1. The reduction in weaving maneuvers is also expected to yield safety benefits.

The re-distribution of traffic also reduces the ramp demands at the Crow Canyon Road and Bollinger Canyon Road interchanges. This is expected to improve merge, diverge and queuing conditions at those locations. In turn, intersection delay would improve for most intersections along Crow Canyon Road and Bollinger Canyon Road with some exceptions during the P.M. peak hour. Intersection delay along Norris Canyon Road, however, would worsen. During the PA&ED phase of this project, signal operations will be refined based on the further refinement of the roadway geometrics and traffic analysis. At that time, consensus will be reached between Caltrans and the City of San Ramon regarding maintaining signal operations so that HOV ramp operations would not be degraded by signal timing changes. In addition, a maintenance agreement between the City and Caltrans may be necessary to ensure future traffic queues on the HOV ramps do not reach mainline at any time. In case that should occur traffic signals on Norris Canyon Road can be adjusted to alleviate traffic queueing problems on the HOV ramps. The City of San Ramon has reviewed the analysis of traffic impacts on the local streets and concurs with the report's conclusions (see Attachment M).

Furthermore, HOV lane throughput and person-miles of travel would also increase. The proposed project would also result in improved peak period travel times for transit and HOVs by allowing those vehicles to travel a more direct route without the added delay of weaving across the mixed use lanes. Currently, many buses do not use the HOV lanes due to the difficulty of weaving across the mixed-flow lanes during peak period conditions. By providing direct access to the HOV lanes, the proposed would allow buses to better utilize the HOV lanes.

Early in the development of the PSR, an operational alternative was eliminated that would have allowed mixed-flow traffic to use the direct ramps in the off-peak periods. If this or a similar operational alternative is considered in the PA/ED phase of the project, analysis of off-peak operations would be required.

The PA/ED phase also provides an opportunity to re-visit the traffic demand forecasts as updated land use projections and Travel Demand Models become available. For more details on the traffic analysis conducted, see the *Traffic Operations Analysis Report* dated December 8, 2009, which is available in Caltrans's offices.

Transportation Management Plan (TMP)

A Transportation Management Plan (TMP) would be required for this project. The TMP is a special program implemented during construction to minimize and prevent delay and inconvenience to the traveling public. The proposed construction and improvements includes roadwork and bridge work that would require lane closures and/or detouring. The TMP Data Sheet and the Request for TMP Data Sheet Memo are provided in Attachment K.

The TMP for the project will be developed and refined during the final design phase. The lane closures during off-peak hours or at night will be required during the placement of K-rails for shoulder work to construct the realignment of the mainline as well as during falsework erection for the replaced overcrossing. The TMP will include press releases to notify and inform motorists, business, community groups, local entities, emergency services, and public officials of incoming closures or detours. Various TMP elements such as portable Changeable Message Signs and CHP COZEEP will be utilized to alleviate and minimize delay to the traveling public. During construction it is intended to maintain pedestrian and bicycle access across the freeway by providing a route on the old or new bridge structure. The preliminary cost estimate of TMP is $1,238,500 for the Alternative 1.

Facility Operations Signage

A combination of Changeable and Extinguishable Message Signs would be utilized to convey to motorists the restrictions on the use of the direct access ramps. The Changeable Message Signs would be utilized on I-680 and supported by standard overhead sign structures with pedestals located in the median or on the Crow Canyon Road Overcrossing in the northbound direction. Standard shoulder widths would be maintained at the potential locations for these Changeable Message Signs. The Extinguishable Message Signs would be utilized on Norris Canyon Road and installed on signal mast arms or in the form of a roadside sign.

Cost Estimate
The project cost for this alternative is summarized below.

Alternative 1: Estimated Costs (2009 dollars)

Item	Estimated Cost
Roadway Items	$57,831,000
Structure Items	$5,867,000
Total Construction Cost	**$63,698,000**
Right of Way Items	$801,000
Total Alternative 1 Capital Cost	**$64,499,000**

The above estimated project cost includes items identified in the 6-page Preliminary Project Construction Cost Estimate Summary (Attachment C).

A Value Analysis will be conducted during the PA\ED phase of this project.

Nonstandard Features
A Mandatory Design Exception Fact Sheet for this alternative was approved by Caltrans on February 3, 2010. The nonstandard items that required exceptions include interchange spacing, shoulder width, and distance between ramp intersection and local intersections. An Advisory Design Exception Fact Sheet was approved by Caltrans District 4 on January 28, 2010. The nonstandard items that required exceptions include design speed on local roadways that connect to State facility; each are briefly described below.

Mandatory
Mandatory design exception approval was required for the nonstandard interchange spacing between the proposed Norris Canyon Road Interchange and the two adjacent interchanges, Crow Canyon Road and Bollinger Canyon Road. An exception was requested to reduce the distance from the standard 1.0 mile to 0.88 mile for Bollinger Canyon Road, and from 1.0 mile to 0.42 mile for Crow Canyon Road.

A second mandatory design exception was requested to reduce the median shoulder width to less than the standard 10 feet on I-680 between the Crow Canyon Road Overcrossing and Fostoria Way Overcrossing. The transition striping at this location is constrained by the existing columns supporting the Crow Canyon Road Overcrossing.

A third mandatory design exception was requested for the nonstandard distance between the proposed ramp intersection and the existing intersection of Norris Canyon Road and San Ramon Valley Boulevard. An exception was requested to reduce the distance from the standard 400’ to approximately 200’.

Advisory
Advisory design exception approval was required for the nonstandard design speed on Norris Canyon Road. The project proposes to use the current vertical alignment of Norris Canyon Road, which was estimated to have a design speed of approximately 35mph. The design speed standards from the Caltrans Highway Design Manual Index 101.1 calls for a minimum of 45mph design speed on any local facility that connects to the State highway.

The additional cost for Alternative 1 to meet current highway design standards is $39 million in 2009 construction dollars, which would increase the cost by approximately 60 percent. This would involve constructing the HOV direct ramps at Crow Canyon Road in lieu of Norris Canyon Road. Major items included in this additional cost are replacements of both the Crow Canyon Road Overcrossing and Norris Canyon Road Overcrossing, significant modifications to all the ramps at Crow Canyon Road interchange, and raising the vertical alignment of Crow Canyon Road. Besides its higher cost, this proposal is not considered to be feasible also because it does not adequately meet the project purpose and need, and it would incur significant inconvenience to the public.

B. Alternative 2 (No-Build)
The only practicable alternative to the proposed project is the No-Build alternative. The No-Build alternative would leave the HOV facility unchanged. The express buses and the HOVs that utilize the HOV lanes would continue to weave across all mixed-flow lanes from the median HOV lane to exit either at Bollinger Canyon Road or Crow Canyon Road, or and vice versa, enter the freeway via either Bollinger or Crow Canyon and weave across all mixed-flow lanes to the median HOV lane.

C. Rejected Alternatives
Locating the HOV direct access ramps at either the Crow Canyon or Bollinger Canyon Interchange would require the complete replacement of that interchange, which would be much more disruptive to traffic and would be prohibitively expensive. In addition, travel time savings for HOVs and express buses would be eroded by the need to travel through the congested intersections and roadways in the proximity of these interchanges.

7. OTHER STUDIES PREPARED

A. Storm Water Management
See *Storm Water Data Report*, dated May 2009. Available for review at Caltrans's offices. Cover sheet is provided as Attachment F.

B. Risk Management
See Attachment G, Project Risk Register, dated April 13, 2009.

C. Materials

See *Preliminary Materials Report*, dated August 12, 2009. Available for review at Caltrans's offices.

D. Drainage

See *Preliminary Drainage Report*, dated May 2009. Available for review at Caltrans's offices.

E. Foundation

See *Preliminary Foundation Report*, dated May 29, 2009. Available for review at Caltrans's offices.

8. COMMUNITY INVOLVEMENT

The following are early planning activities and community involvement efforts that were undertaken during this initial phase of project development:

1. Identified Project stakeholders, including City of San Ramon Staff, City of San Ramon elected officials, local residents, local businesses, and other community members with an interest in the project.
2. Involved stakeholders in the identification of issues and characteristics that may influence the project.
3. Engaged stakeholders in a series of meetings to identify potential issues and concerns. Stakeholder meetings were held on 4/11/2007, 5/1/2007, 5/24/2007, and 5/30/2007.

As a result of early planning activities and community involvement efforts, the following occurred in the scope of the project:

1. Some changes were made in project design to ensure that the project would not conflict with community goals or the natural environment.
2. The project was designed such that views within this designated scenic corridor would not be adversely affected.
3. Sidewalks and bike lanes in both directions of the Norris Canyon Overcrossing have been incorporated into the project.

9. ENVIRONMENTAL DETERMINATION/DOCUMENT

The Preliminary Environmental Analysis Report (PEAR) for this project can be found in Attachment D. It identifies and helps avoid potential environmental impacts and effects of the project and includes the permits required. The PEAR also assists in the development of alternatives identifying technical studies that are required in the PA/ED phase and their associate costs.

The environmental document necessary for the proposed project is expected to be an Initial Study/Negative Declaration under the California Environmental Quality Act (CEQA) and a Categorical Exclusion under the National Environmental Policy Act (NEPA). More detailed studies during the PA/ED phase may change

this assessment. The final report is expected to be a joint NEPA/CEQA document during the PA/ED project phase.

10. FUNDING

10A. PROJECT COST

Funding for this project in the amount of $32.7 million is included in CCTA's 2007 Measure J Strategic Plan. The project is also included for funding in the Tri-Valley Transportation Development Fund at a funding level to be determined. Additional funding will be pursued.

The project capital cost estimate for the proposed build alternative is included in Attachment C. The construction capital cost estimate of $64.5 million in 2009 dollars is projected to escalate to $80 million in 2016, the assumed mid-point of construction. The escalation rate was calculated at 3.5% per year, for 6 years from 2010 to 2016, making the assumption escalation is "flat" the first year, from 2009 to 2010.

Total project costs in escalated dollars for the build alternative, including support costs, are summarized as follows:

Alternative 1: Estimated Total Project Costs (escalated)

Item	Estimated Cost
Environmental Documentation	$2,000,000
Design	$6,000,000
Right-of-Way and Utility	$1,000,000
Construction	$80,000,000
Construction Management	$13,000,000
Total:	$102,000,000*

* consistent with costs included in T-2035 (RTP ID#22352) of $102 million

10B. CAPITAL SUPPORT ESTIMATE FOR CALTRANS PERSONNEL

	PROJECT SUPPORT COMPONENTS								
	PA&ED 0 Phase		Design 1 Phase		Right of Way 2 Phase		Construction 3 Phase		Total
	Dist	DES	Dist	DES	Dist	DES	Dist	DES	
Estimated PY's	3.97	0.21	2.00	0.35	0.52		4.59	3.76	15.4
[redacted]									
Estimated PS $'s	592,800	31,200	298,350	52,650	78,000		686,400	561,600	2,301,000
Estimated PYE $'s ($1000's)									0
Total $'s	592,800	31,200	298,350	52,650	78,000	0	686,400	561,600	2,301,000

11. SCHEDULE

HQ Milestones	Anticipated Delivery Date
Begin Environmental	March 2010
Circulate DED	January 2012
Complete PA & ED	January 2013
Complete PS&E	September 2014
Right of Way Certification	September 2014
Ready to List	March 2015
Start Construction	July 2015
End Construction	July 2017
Project Closeout	July 2019

12. FHWA COORDINATION

This Report has been reviewed by Lanh Phan, Transportation Engineer, who conducted a preliminary review and provided comments. These comments were responded to by the project team. Federal "engineering and operational acceptability" determination will be sought when the draft environmental document is circulated. To obtain an "engineering and operational acceptability" from the FHWA, the following items will need to be prepared:

- Traffic analysis for the implementation year
- Quantitative analysis of weaving, merging and diverging for all analysis years
- Colored, large scale layout sheets
- Conceptual signing plan and details
- Conceptual pavement delineation plan

13. PROJECT CONTACTS

POSITION	NAME	PHONE
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CH2M HILL Project Manager	Deborah Dagang	(510) 587-7591
CH2M HILL Project Engineer	Man-San (Vincent) Chio	(510) 587-7588
City of San Ramon Transportation Division Manager	Lisa Bobadilla	(925) 973-2651
City of San Ramon Senior Traffic Engineer	Mike Talley	(925) 973-2654

14. PROJECT REVIEWS

District Safety Review	Viet Nguyen	Date	6/18/2009
HQ Design Coordinator	Mike Thomas	Date	9/10/2009

15. ATTACHMENTS

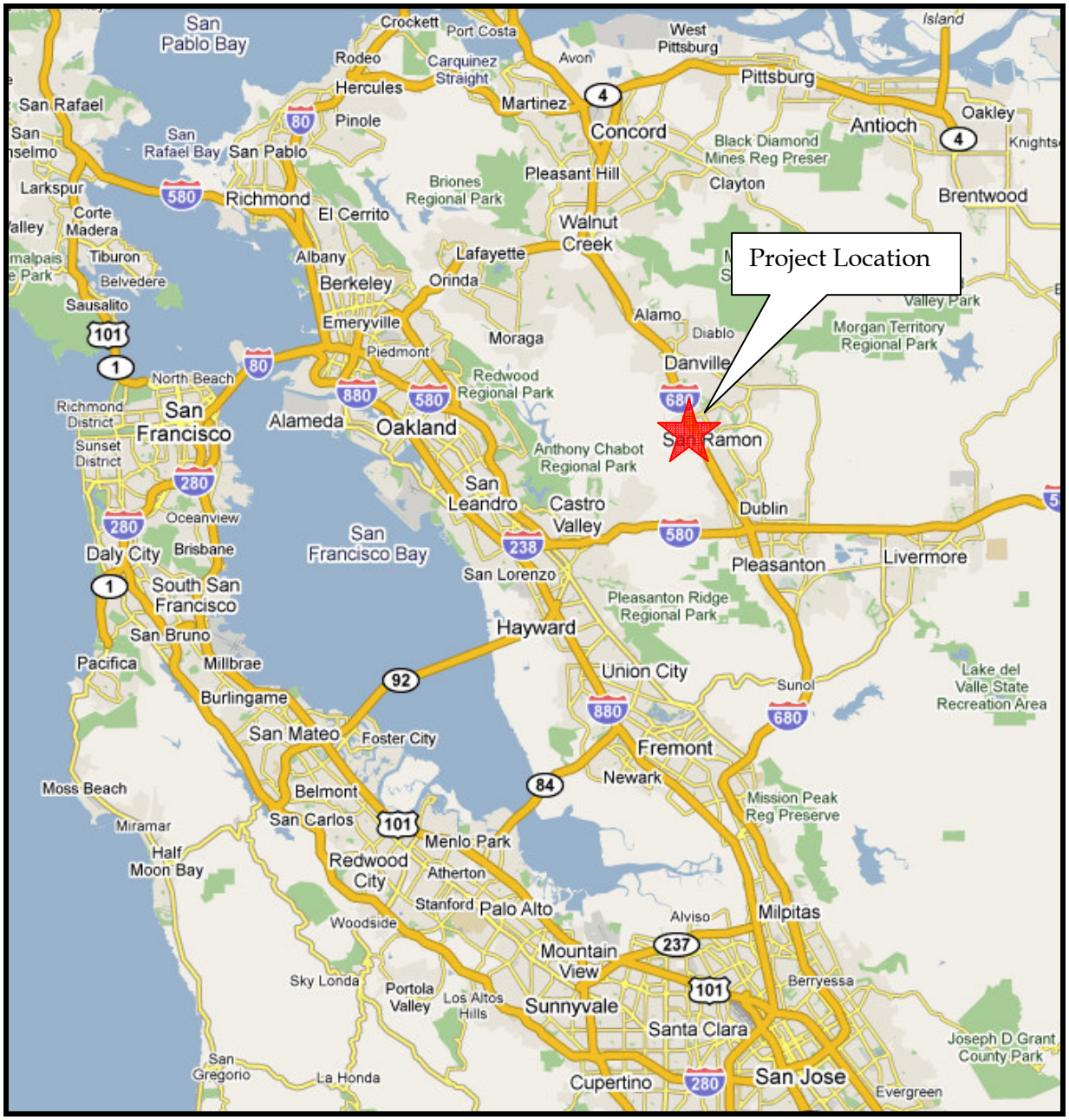
A. Project Location Map
B. Alternative 1 Conceptual Drawings (Layouts, Profiles and Typical Cross Sections)
C. Project Cost Estimate
D. Preliminary Environmental Analysis Report (PEAR)
E. Right of Way Data Sheet
F. Storm Water Data Report (SWDR) – Signature Sheet
G. Project Risk Register
H. Draft Transportation Corridor Concept Report (TCCR)
I. Traffic Operations Analysis Report - Cover Sheet
J. Structure Advance Planning Study
K. Transportation Management Plan (TMP) Data Sheet and Request for TMP Data Sheet
L. Pavement Strategy Checklist
M. City of San Ramon Letter of Support

ATTACHMENT A

PROJECT LOCATION MAP

I-680/Norris Canyon Road HOV Direct Ramps Project Study Report

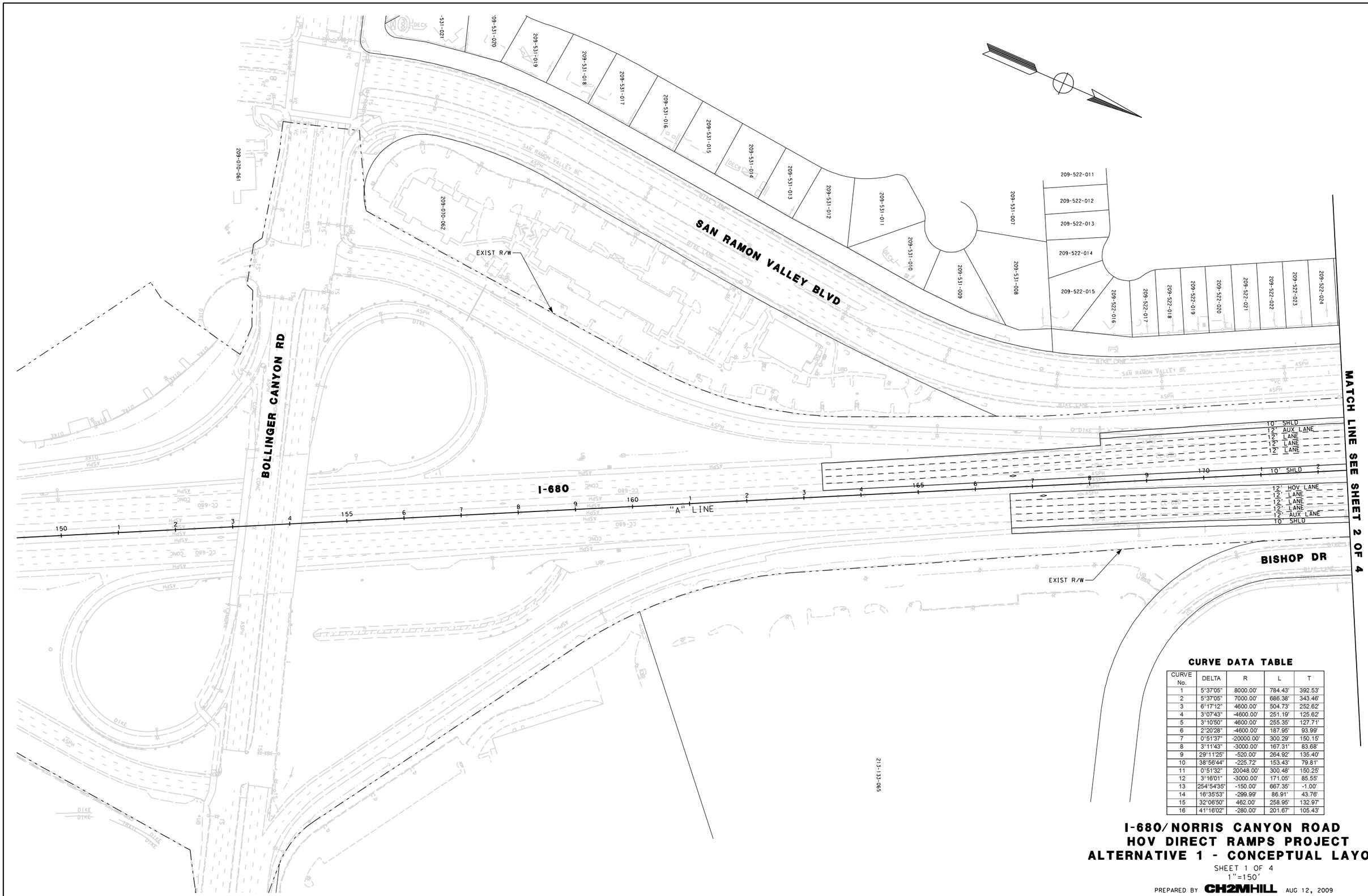
Project Location Map



Source: http://maps.google.com/

ATTACHMENT B

ALTERNATIVE 1 CONCEPTUAL DRAWINGS (LAYOUTS, PROFILES AND TYPICAL CROSS SECTIONS)



CURVE DATA TABLE

CURVE No.	DELTA	R	L	T
1	5°37'05"	8000.00'	784.43'	392.53'
2	5°37'05"	7000.00'	686.38'	343.46'
3	6°17'12"	4600.00'	504.73'	252.62'
4	3°07'43"	-4600.00'	251.19'	125.62'
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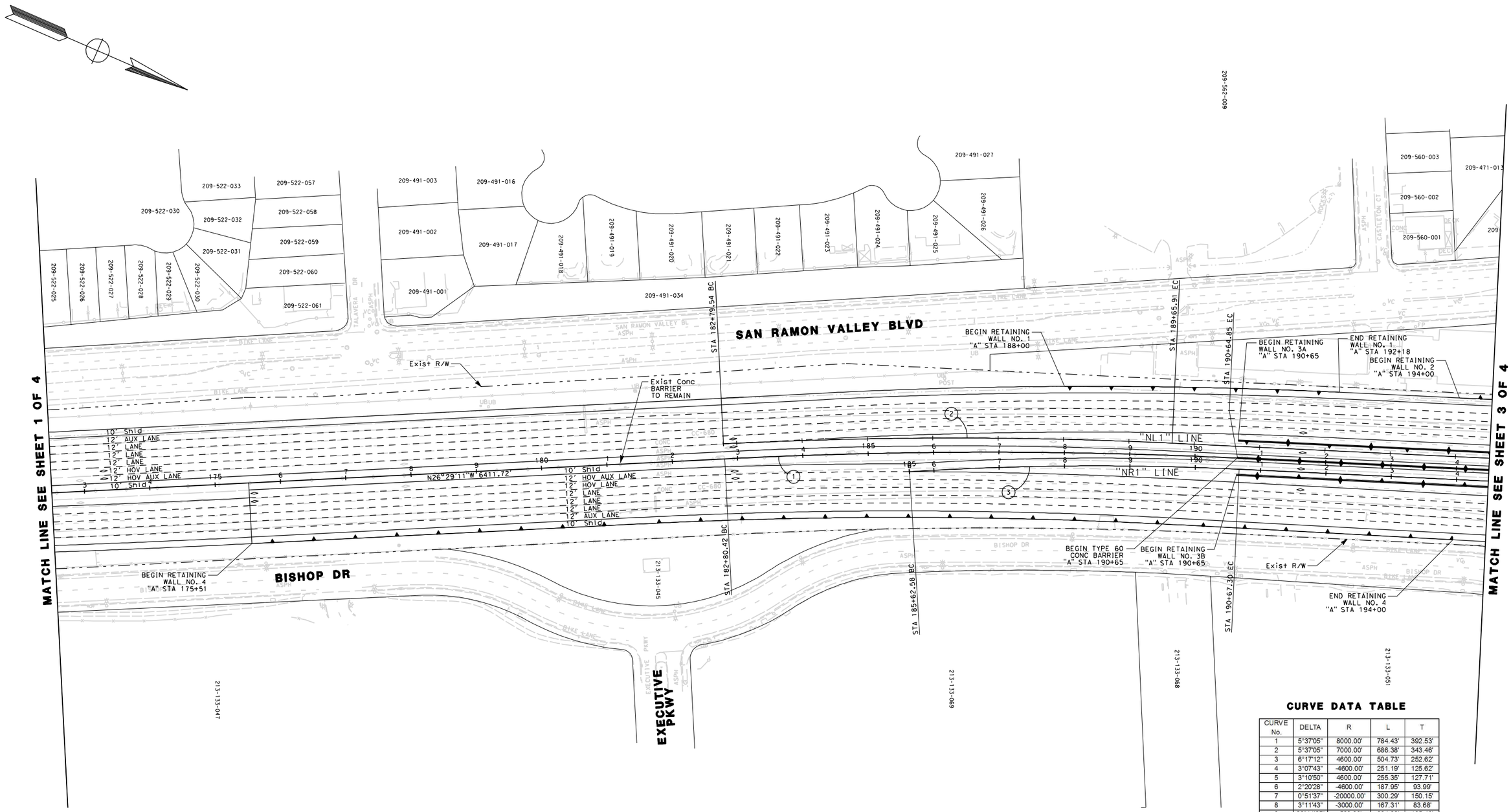
12	3°16'01"	-3000.00'	171.05'	85.55'
13	254°54'35"	-150.00'	667.35'	-1.00'
14	16°35'53"	-299.99'	86.91'	43.76'
15	32°06'50"	462.00'	258.95'	132.97'
16	41°16'02"	-280.00'	201.67'	105.43'

I-680/NORRIS CANYON ROAD HOV DIRECT RAMPS PROJECT ALTERNATIVE 1 - CONCEPTUAL LAYOUT

SHEET 1 OF 4

1"=150'

PREPARED BY CH2MHILL AUG 12, 2009



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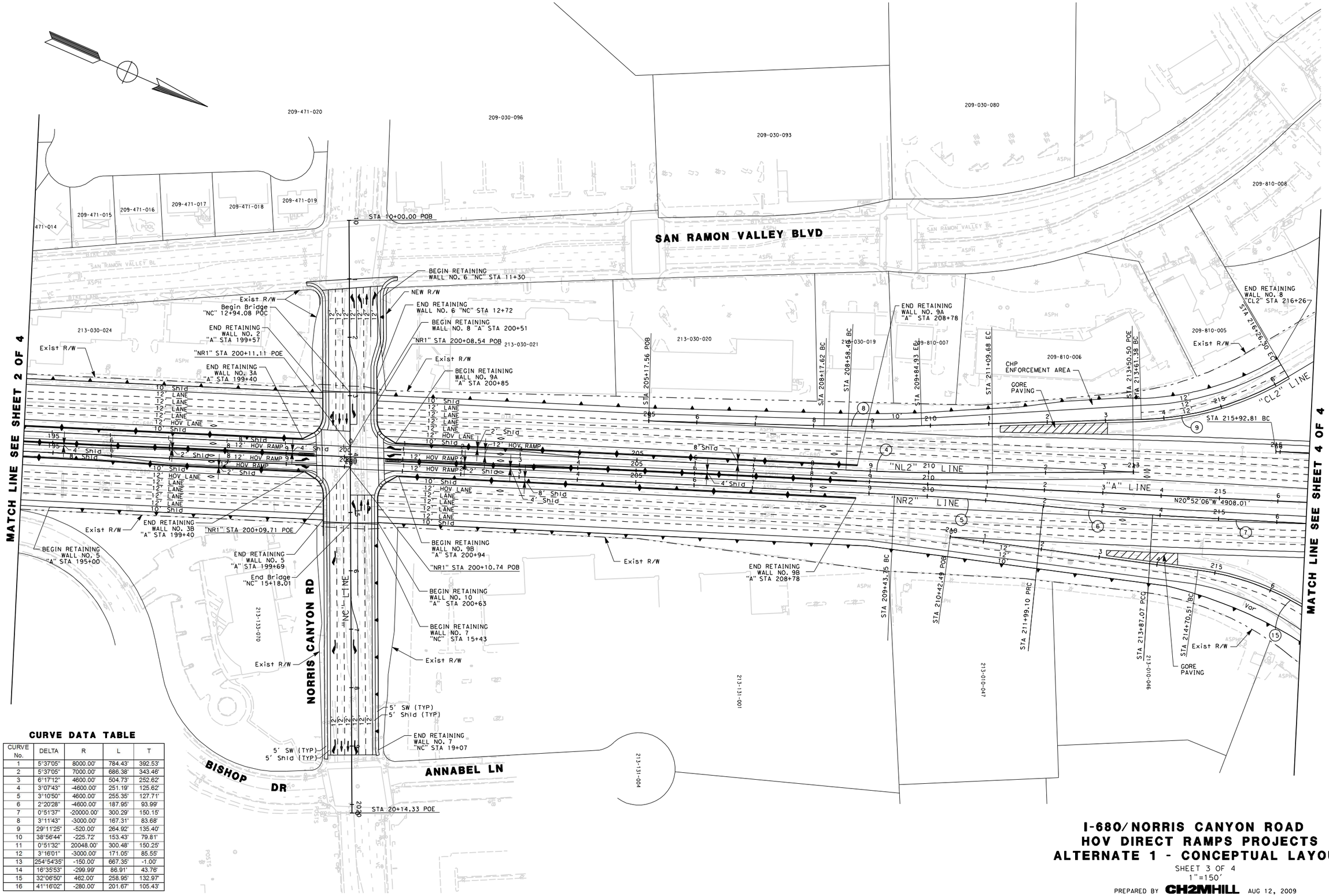
I-680/NORRIS CANYON ROAD HOV DIRECT RAMPS PROJECT ALTERNATE 1 - CONCEPTUAL LAYOUT

SHEET 2 OF 4

1"=150'

PREPARED BY CH2MHILL AUG 12, 2009



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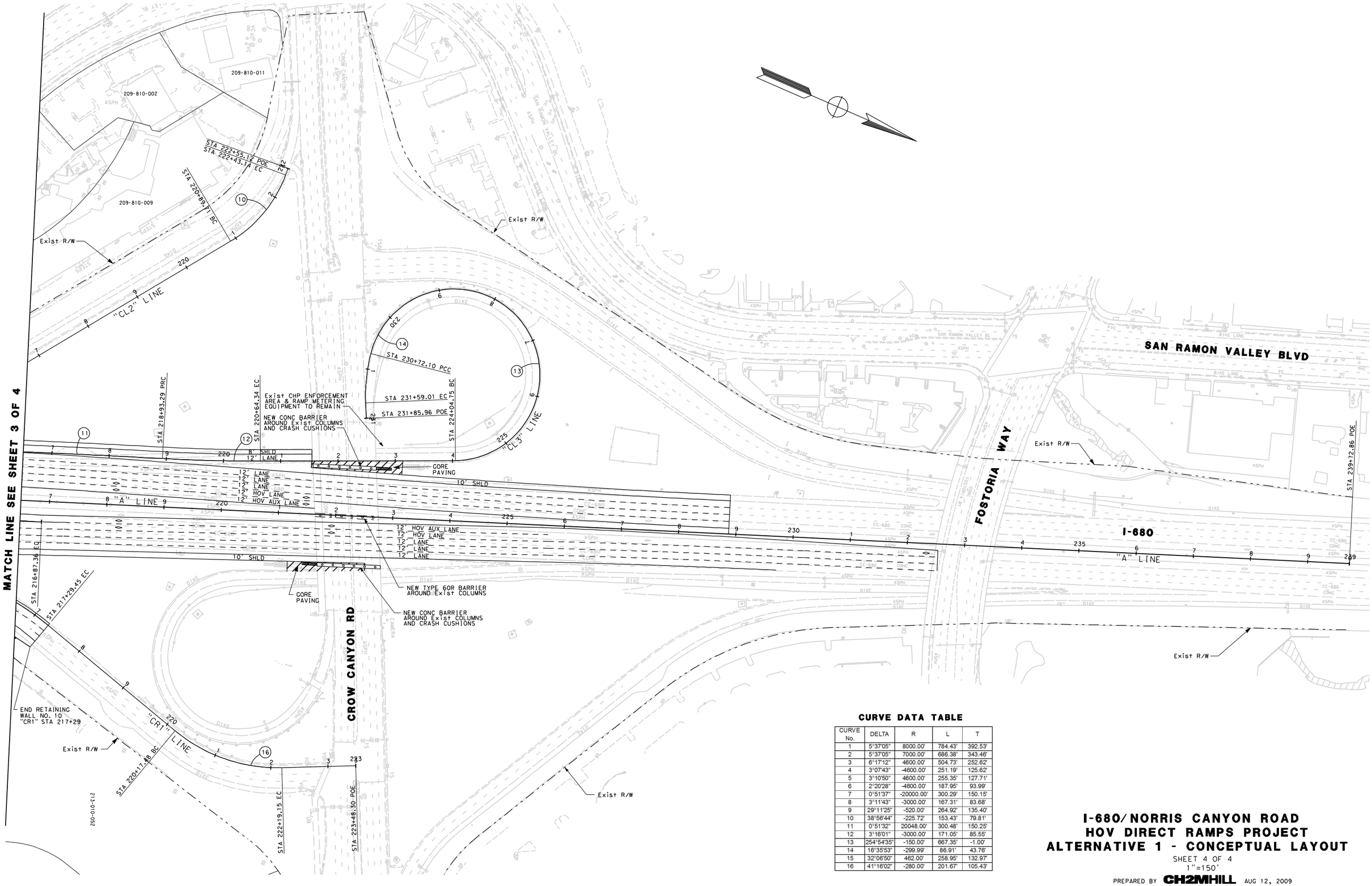
I-680/NORRIS CANYON ROAD HOV DIRECT RAMPS PROJECTS ALTERNATE 1 - CONCEPTUAL LAYOUT

SHEET 3 OF 4

1"=150'

PREPARED BY CH2MHILL AUG 12, 2009



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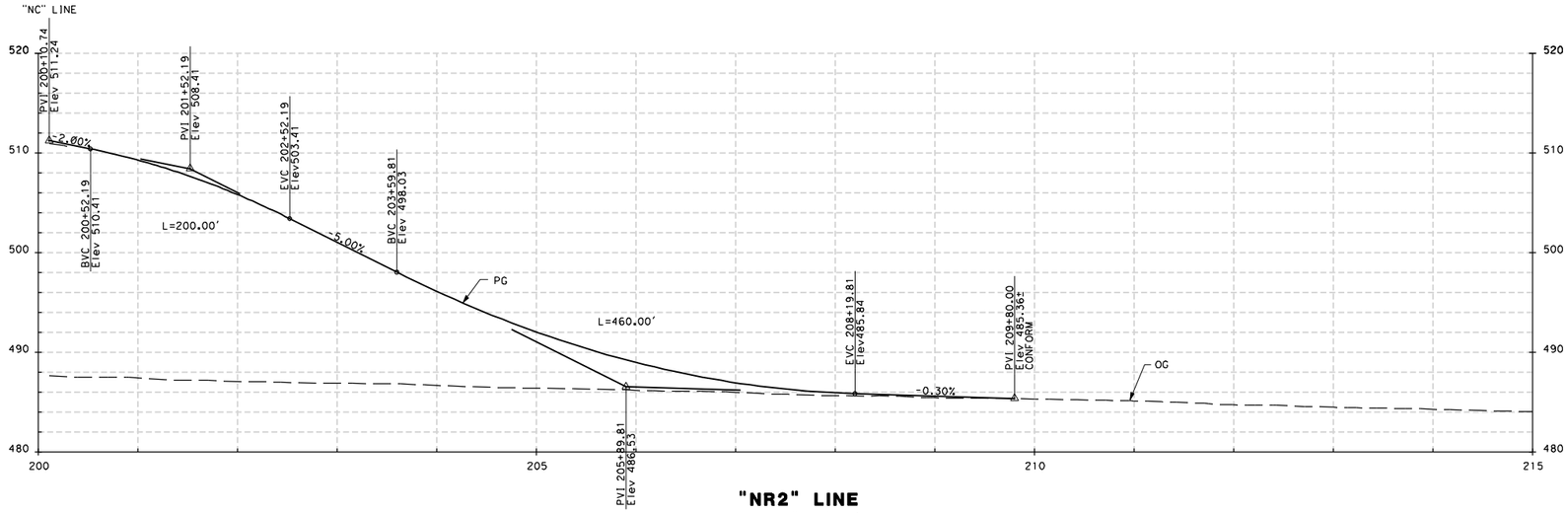
I-680/NORRIS CANYON ROAD HOV DIRECT RAMPS PROJECT ALTERNATIVE 1 - CONCEPTUAL LAYOUT

SHEET 4 OF 4

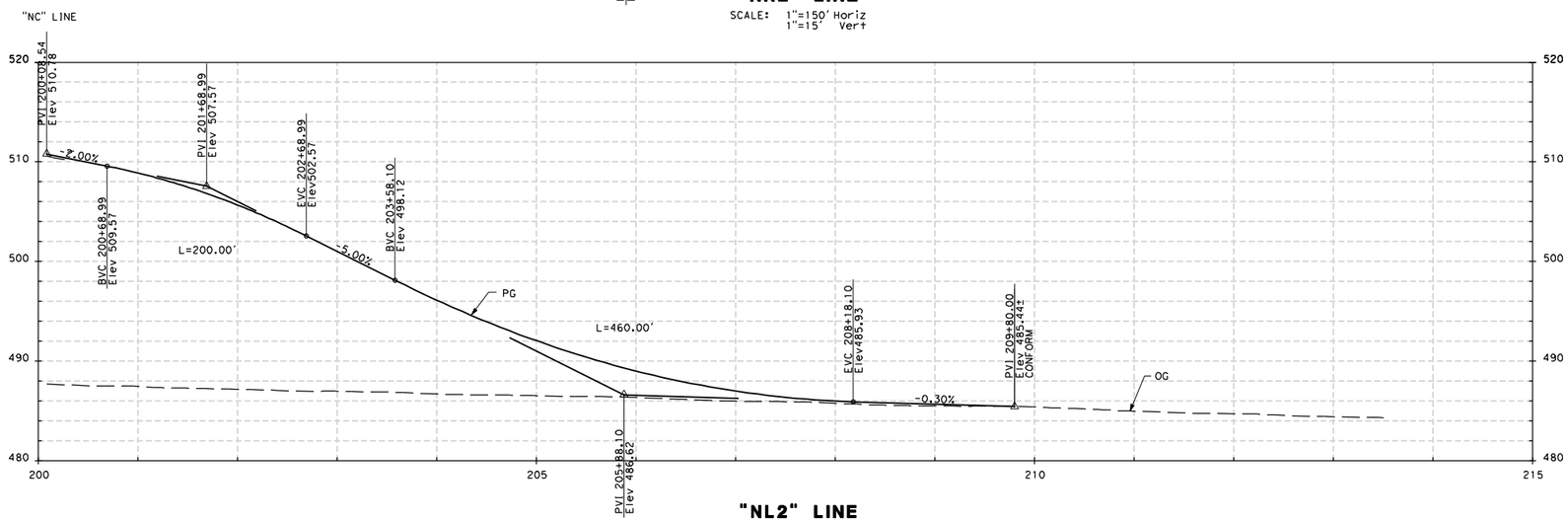
1"=150'

PREPARED BY CH2MHILL AUG 12, 2009



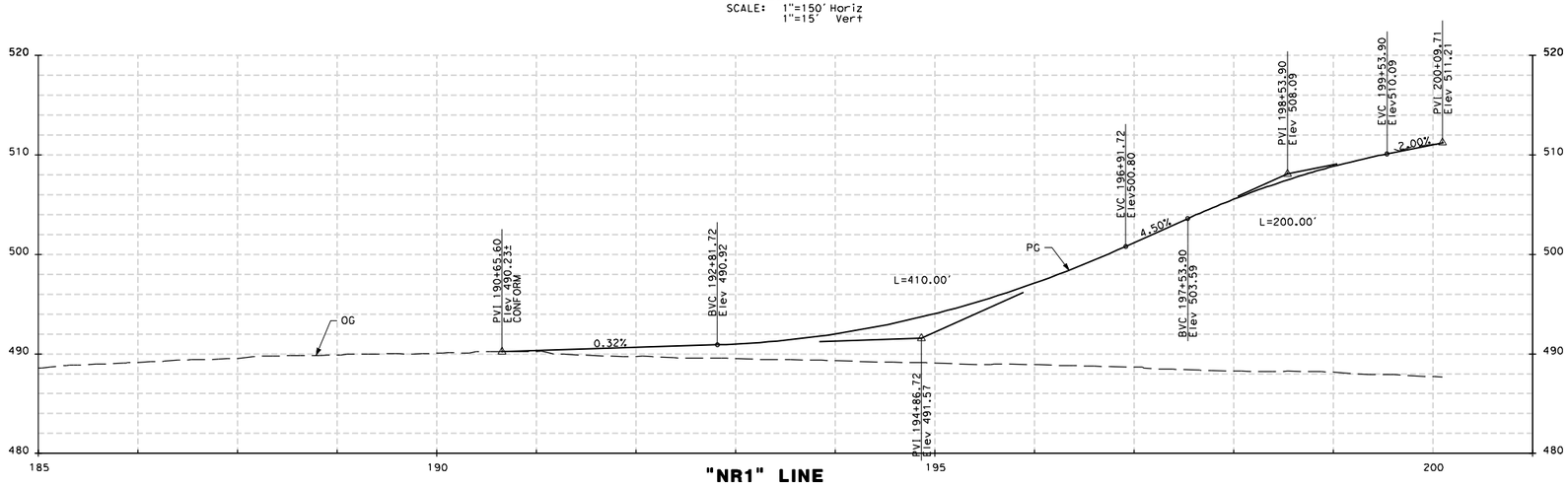
"NR2" LINE

SCALE: 1"=150' Horiz
1"=15' Vert



"NL2" LINE

SCALE: 1"=150' Horiz
1"=15' Vert



"NR1" LINE

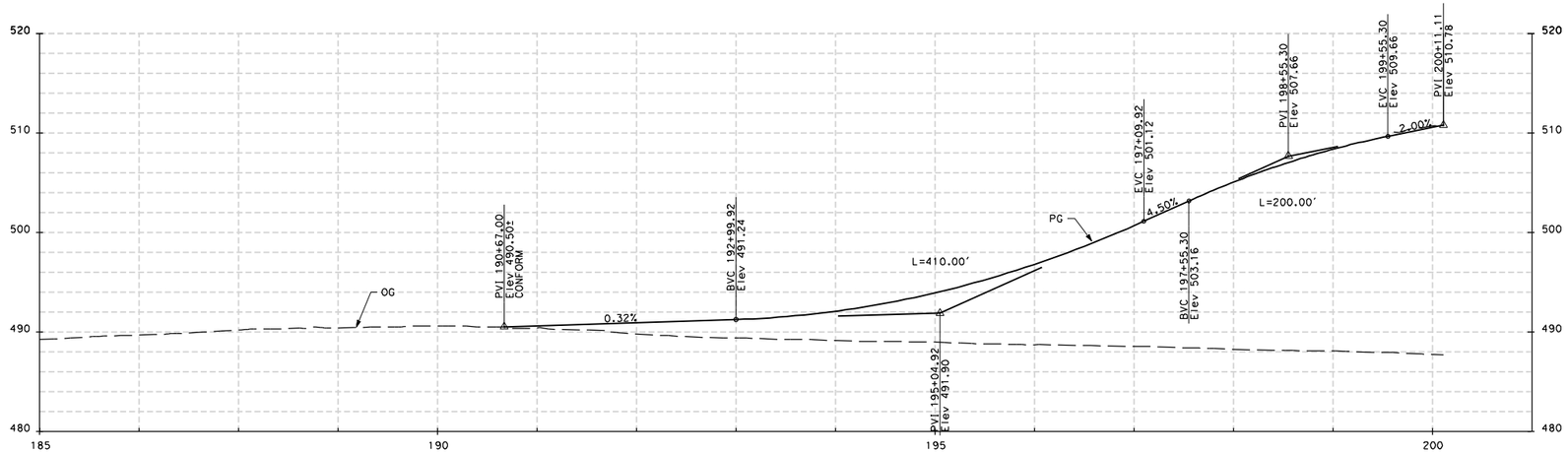
SCALE: 1"=150' Horiz
1"=15' Vert

I-680/NORRIS CANYON ROAD
HOV DIRECT RAMPS PROJECT
ALTERNATIVE 1 - CONCEPTUAL PROFILES

SCALE: 1"=150' Horiz
1"=15' Vert

SHEET 1 OF 2

PREPARED BY CH2MHILL AUG 12, 2009



"NL1" LINE

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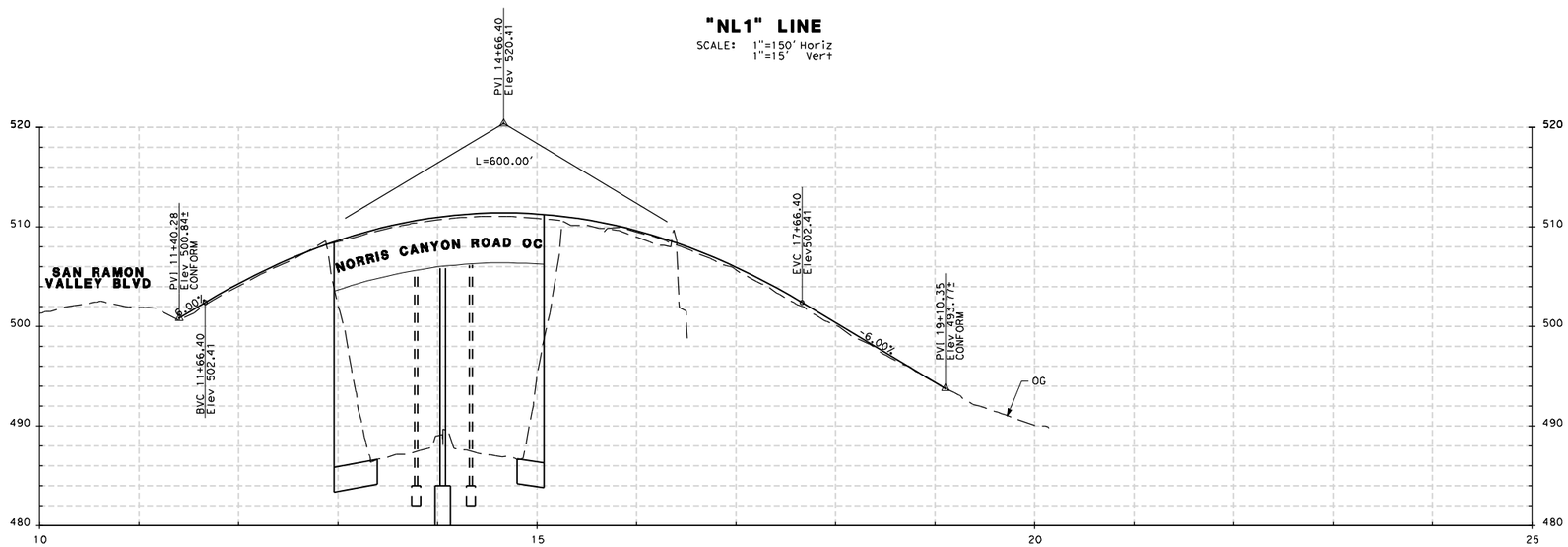


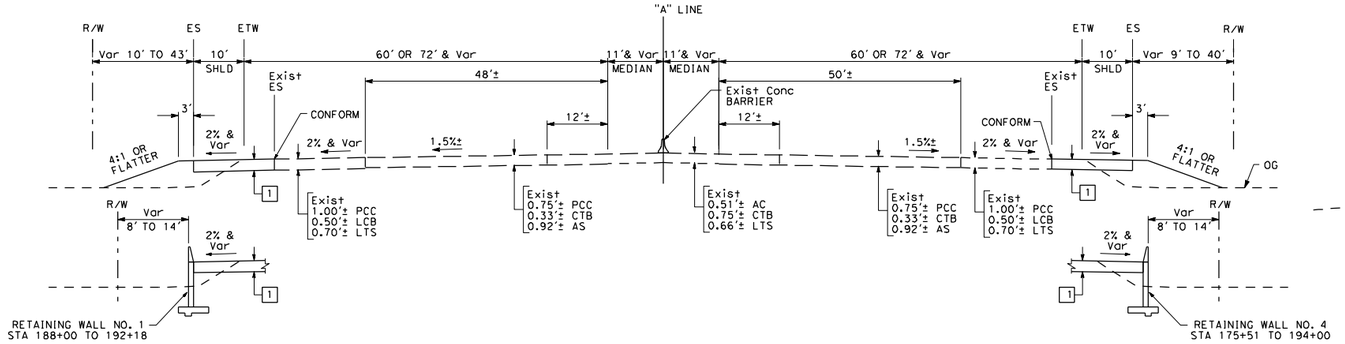
"NC" LINE

SCALE: 1"=150' Horiz
1"=15' Vert

I-680/NORRIS CANYON ROAD
HOV DIRECT RAMPS PROJECT
ALTERNATIVE 1 - CONCEPTUAL PROFILES

SCALE: 1"=150' Horiz
1"=15' Vert
SHEET 2 OF 2

PREPARED BY CH2MHILL AUG 12, 2009

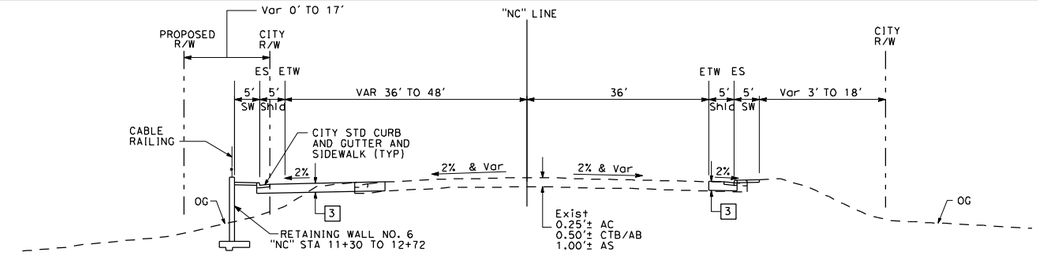


SOUTHBOUND
"A" STA 188+00 TO 192+16

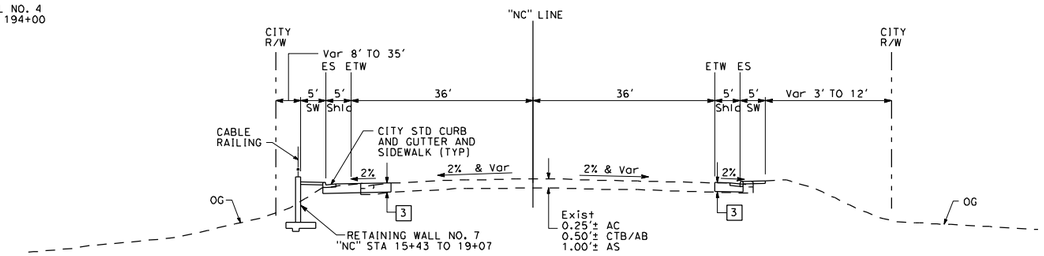
SOUTHBOUND
"A" STA 168+23 TO 190+65

NORTHBOUND
"A" STA 166+60 TO 190+65

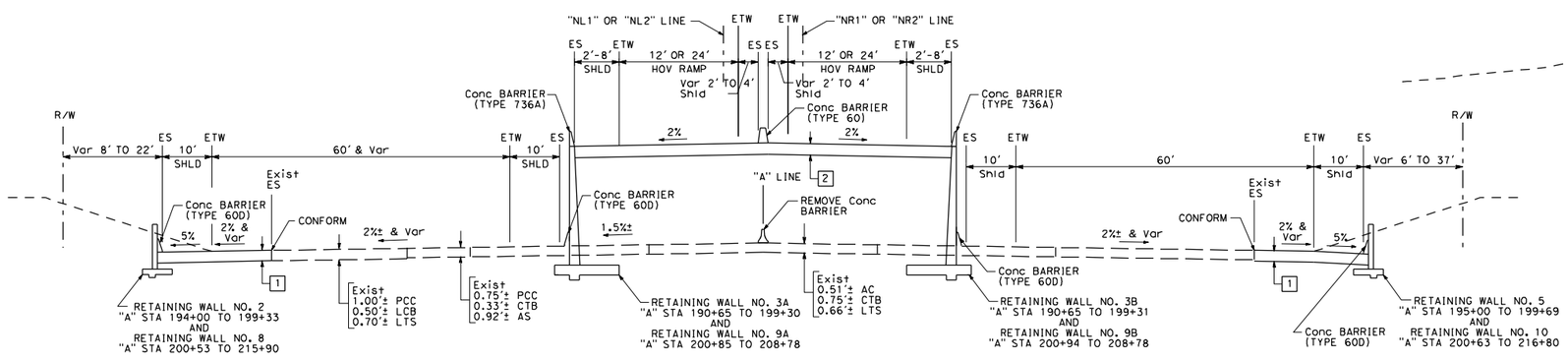
ROUTE 680
NO SCALE



NORRIS CANYON ROAD
NO SCALE
"NC" STA 11+16 TO 12+94



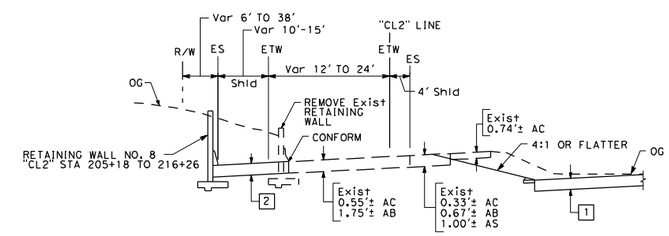
NORRIS CANYON ROAD
NO SCALE
"NC" STA 15+18 TO 19+15



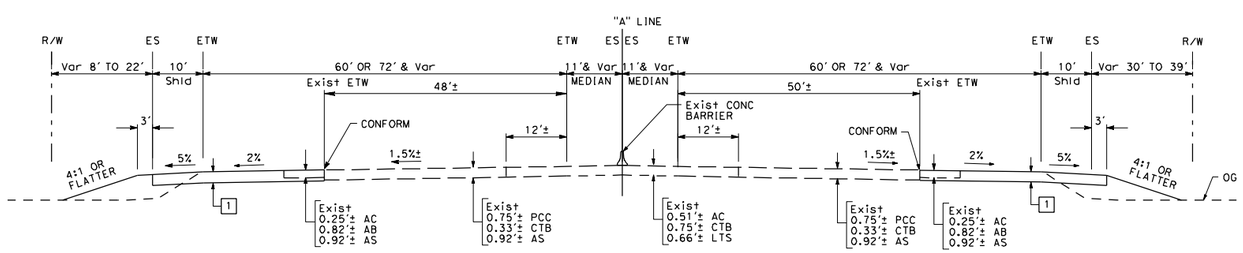
SOUTHBOUND
"A" STA 190+65 TO 208+78

NORTHBOUND
"A" STA 190+65 TO 208+78

ROUTE 680
NO SCALE



SOUTHBOUND ON RAMP FROM EASTBOUND CROW CANYON ROAD
NO SCALE
"CL2" STA 205+18 TO 216+26



SOUTHBOUND
"A" STA 208+78 TO 228+87

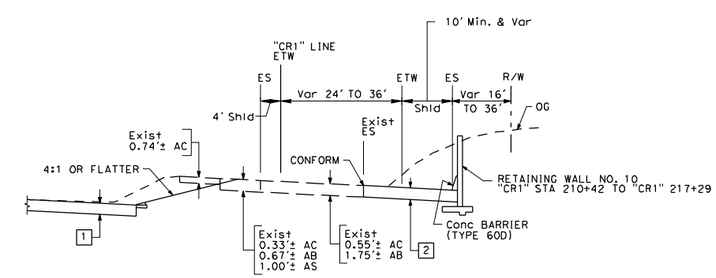
NORTHBOUND
"A" STA 208+78 TO 232+50

ROUTE 680
NO SCALE

TYPICAL STRUCTURAL SECTIONS:

1	1.00' PCC 0.50' LCB 0.70' LTS
*2	0.20' RHMA-G 0.35' HMA (A) 1.75' AB (CL3)
*3	0.30' HMA (A) 0.50' CTB (A) 1.00' AS (CL4)

* Based on a Traffic Index (TI) of 8 and an R-value of 10.



NORTHBOUND OFF RAMP TO CROW CANYON ROAD
NO SCALE
"CR1" STA 210+42 TO 217+29

I-680/NORRIS CANYON ROAD HOV DIRECT RAMPS PROJECT
ALTERNATIVE 1 - CONCEPTUAL TYPICAL CROSS SECTIONS

NO SCALE

SHEET 1 OF 1

PREPARED BY CH2MHILL AUG 12, 2009

ATTACHMENT C

PROJECT COST ESTIMATE

PRELIMINARY PROJECT CONSTRUCTION COST ESTIMATE SUMMARY

District-County-Route	04-CC-680
KP(PM)	R4.7/R7.5(R2.9/R4.7)
EA	3A860K

PROJECT DESCRIPTION:

Limits In Contra Costa County, in San Ramon, from Bollinger Canyon Road Overcrossing to 0.2 mile north of Crow Canyon Road Overcrossing

Proposed Improvement (Scope) Construct HOV direct access ramps connecting the HOV lanes on I-680 to Norris Canyon Road. Reconstruct Norris Canyon Road overcrossing and widen I-680 to accommodate the HOV ramps and HOV auxiliary lanes.

Alternative 1

SUMMARY OF PROJECT CONSTRUCTION COST ESTIMATE

TOTAL ROADWAY ITEMS	$ 57,831,000
TOTAL STRUCTURE ITEMS	$ 5,867,000
SUBTOTAL CONSTRUCTION COSTS	$ 63,698,000
TOTAL RIGHT OF WAY ITEMS	$ 801,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$ **64,499,000**

Reviewed by District Program Manager N/A
(Signature)

Approved by Project Manager
(Signature)

Date: 1/20/2010

Phone No. (510) 286-6018

PRELIMINARY PROJECT CONSTRUCTION COST ESTIMATE SUMMARY

District-County-Route	04-CC-680
KP(PM)	R4.7/R7.5(R2.9/R4.7)
EA	3A860K

I. ROADWAY ITEMS

Section 1 Earthwork	Quantity	Unit	Unit Price	Item Cost	Section Cost
Roadway Excavation	67,000	CY	$ 30.00	$ 2,010,000	
Develop Water Supply	1	LS	$ 50,000.00	$ 50,000	
Clearing and Grubbing	1	LS	$ 50,000.00	$ 50,000	
				Subtotal Earthwork	$ 2,110,000
Section 2 Pavement Structural Section					
Portland Cement Concrete	8,700	CY	$ 200.00	$ 1,740,000	
Lean Concrete Base	4,400	CY	$ 160.00	$ 704,000	
Lime-Treated Subbase	6,100	CY	$ 150.00	$ 915,000	
Rubberized Hot Mix Asphalt	1,900	TON	$ 130.00	$ 247,000	
Hot Mix Asphalt Concrete	3,600	TON	$ 100.00	$ 360,000	
Cement Treated Base	200	CY	$ 124.00	$ 24,800	
Aggregate Base	8,300	CY	$ 80.00	$ 664,000	
Aggregate Sub Base	300	CY	$ 70.00	$ 21,000	
Remove Concrete Pavement	128,600	SF	$ 5.00	$ 643,000	
				Subtotal Pavement Structural Section	$ 5,318,800
Section 3 Drainage and BMPs					
Storm Drains	1	LS	$ 7,000,000.00	$ 7,000,000	
Permanet Treatment BMPs	1	LS	$ 840,000.00	$ 840,000	
(See Preliminary Drainage Report and SWDR for more information)				Subtotal Drainage and BMPs	$ 7,840,000

PRELIMINARY PROJECT CONSTRUCTION COST ESTIMATE SUMMARY

District-County-Route	04-CC-680
KP(PM)	R4.7/R7.5(R2.9/R4.7)
EA	3A860K

Section 4 Specialty Items

Retaining Wall Type A	13,400	SF	$ 75.00	$ 1,005,000
Retaining Wall Type B	34,600	SF	$ 100.00	$ 3,460,000
Retaining Wall Type C	42,290	SF	$ 150.00	$ 6,343,500
Barriers and Guardrails	11,200	FT	$ 60.00	$ 672,000
Crash Cushion Modules	6	EA	$ 10,000.00	$ 60,000
Temporary Construction Site BMPs	1	LS	$ 830,000.00	$ 830,000
Erosion Control	1	LS	$ 60,000.00	$ 60,000
Hazardous Waste Work (ADL)	1	LS	$ 200,000.00	$ 200,000
Relocate Fiber Optic Line	400	FT	$ 100.00	$ 40,000
Irrigation and Highway Planting	1	LS	$ 500,000.00	$ 500,000
Construction Contract Work (Right of Way)	1	LS	$ 250,000.00	$ 250,000

Subtotal Specialty Items $ 13,420,500

Section 5 Traffic Items

Street Lighting	1	LS	$ 100,000.00	$ 100,000
Highway Lighting	1	LS	$ 200,000.00	$ 200,000
Traffic Delineation Items	1	LS	$ 100,000.00	$ 100,000
Traffic Signals and Interconnect	1	LS	$ 500,000.00	$ 500,000
Overhead Sign Structure	1	LS	$ 500,000.00	$ 500,000
Changeable/Extinguishable Message Signs	1	LS	$ 400,000.00	$ 400,000
Roadside Signs	1	LS	$ 100,000.00	$ 100,000
Traffic Control Systems	600	DAYS	$ 5,000.00	$ 3,000,000
Transportation Management Plan	1	LS	$ 1,238,500.00	$ 1,238,500
Temporary K-Rail	43,000	FT	$ 30.00	$ 1,290,000
Ramp Metering	1	LS	$ 30,000.00	$ 30,000
Traffic Operations System	1	LS	$ 110,000.00	$ 110,000

Subtotal Traffic Items $ 7,568,500

TOTAL SECTIONS 1 thru 5 $ 36,257,800

PRELIMINARY PROJECT CONSTRUCTION COST ESTIMATE SUMMARY

District-County-Route	04-CC-680
KP(PM)	R4.7/R7.5(R2.9/R4.7)
EA	3A860K

Section 6 Minor Items				Item Cost	Section Cost
Subtotal Sections 1thru 5	$ 36,257,800	x 10%	= $	3,625,780	$ 3,625,780
			TOTAL MINOR ITEMS		
Section 7 Roadway Mobilization					
Subtotal Sections 1 thru 6	$ 39,883,580	x 10%	= $	3,988,358	$ 3,988,358
			TOTAL ROADWAY MOBILIZATION		
Section 8 Roadway Additions					
Supplemental Work:	$ 39,883,580	x 10%	= $	3,988,358	$ 3,988,358
Contingencies:	$ 39,883,580	x 25%	= $	9,970,895	$ 9,970,895
			TOTAL ROADWAY ADDITIONS		$ 13,959,253
			TOTAL ROADWAY ITEMS		**$ 57,831,191**
					(Subtotal Sections 1 thru 8)
				USE	**$ 57,831,000**

Estimate Prepared By	Danielle Elkins/CH2M HILL	Phone No.	510-587-7567	Date	12/11/2009
Estimate Checked By	Vincent Chio/CH2M HILL	Phone No.	510-587-7588	Date	12/11/2009

PRELIMINARY PROJECT CONSTRUCTION COST ESTIMATE SUMMARY

District-County-Route	04-CC-680
KP(PM)	R4.7/R7.5(R2.9/R4.7)
EA	3A860K

II. STRUCTURE ITEMS

Bridge Name	Norris Canyon Road Overcrossing		Cost per ft^2		
Remove Existing Bridge	1.00	$	LS	$	200,000
New Bridge - (FT^2)	23,250	$	243.74	$	5,667,000
Total Cost for Structure	(Includes 10% Mobilization & 25% Contingency)			$	5,867,000

TOTAL STRUCTURES ITEMS $ 5,867,000

(Sum of Structures Items plus Railroad Items)

USE $ 5,867,000

Estimate Prepared By Hans Strandgaard/CH2M HILL Phone No. 916-286-0321 Date 4/24/2009

PRELIMINARY PROJECT CONSTRUCTION COST ESTIMATE SUMMARY

District-County-Route	04-CC-680
KP(PM)	R4.7/R7.5(R2.9/R4.7)
EA	3A860K

III. RIGHT OF WAY ITEMS

		Current Value (Future Use)	Escalation Rate/year	Escalated Value
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill.	$	161,000		
B. Utility Relocation (State/Project Sponsor share)	$	520,000		
C. Relocation Assistance	$			
D. Clearance/Demolition	$	50,000		
E. Title and Escrow Fees	$	70,000		
TOTAL RIGHT OF WAY (Current Value)	$	**801,000**		

TOTAL RIGHT OF WAY ITEMS (Escalated Value) $ **N/A**

ROUNDED $ **801,000**

Anticipated Date of Right of Way Certification (Date to which Values are Escalated) **9/1/2014**

F. Construction Contract Work

Brief Description of Work:
Construction contract work would include chain link fencing, parking area reconstruction (may include paving, grading, storm drain, lighting, irrigation, etc).

Right of Way Branch Cost Estimate for Work $ **250,000**

COMMENTS:

Construction Contract Work costs are added to the cost summary, Section 4 - Specialty Items.

Estimate Prepared By Man-San Chio/CH2M HILL Phone No. 510-587-7588 Date 12/11/2009

ATTACHMENT D

PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT (PEAR)

Preliminary Environmental Analysis Report

Project Information

District 4	County CC	Route I-680	PM R2.9-R4.4	EA 3A860K

Project Title	I-680/Norris Canyon Road HOV Direct Ramps Project

Project Manager	Yadollah Fathollahi (Caltrans)	Phone Number	510-286-6018

Project Engineer	Robert Blanco (Caltrans)	Phone Number	510-286-5676

Environmental Manager	Deborah Dagang (CH2M HILL)	Phone Number	510-587-7591

PEAR Prepared by	Greta Kirschenbaum (CH2M HILL)	Phone Number	415-541-7220

Project Description

Purpose and Need:

The purpose of the proposed project is to:

- Provide direct access and reduce travel times for express buses and high occupancy vehicles (HOVs) during peak periods to and along I-680 between Crow Canyon Road and Bollinger Canyon Road.
- Improve express bus operations by making travel times more consistent and reducing schedule uncertainty.
- Improve inter-modal connectivity within the San Ramon area.

The project is needed to provide direct HOV access from/to destinations in San Ramon, thereby benefiting the San Ramon Valley/Tri-Valley areas. Currently, express buses and HOVs accessing I-680 from the existing interchanges in San Ramon must cross 3 lanes of traffic in order to access dedicated HOV lanes. By reducing the amount of weaving by HOVs and express buses entering or exiting the freeway, the project would reduce travel times.

A reduction in express bus and HOV travel times to access San Ramon destinations (San Ramon Transit Center, Bishop Ranch Business Park, planned City Center mixed-use project, other commercial business and residences) is needed to make travel times for express buses and HOVs traveling to/from this corridor more consistent. More consistent travel times would result in fewer schedule uncertainties and improved express bus operations and service. More consistent travel times also would improve local and regional system linkages. Further, as travel times along this portion of I-680 improve, ridesharing would be encouraged.

The project also is needed to improve modal interrelationships within the project corridor. Intermodal connectivity would be improved by enhancing regional express bus access to/from destinations in San Ramon (San Ramon Transit Center, Bishop Ranch Business Park, planned City Center mixed-use project, other commercial business and residences) and I-680, which also

provides linkages to three BART stations (Walnut Creek, Dublin/Pleasanton and West Dublin).

Because the project would address specific needs, as described above, within the logical termini of Crow Canyon Road and Bollinger Canyon Road in San Ramon, the project would have independent utility. Even if no other improvements were made within the project corridor, implementing the proposed project in order to correct current roadway design deficiencies within the logical termini would improve modal interrelationships and would ultimately make multimodal travel more efficient along this segment of I-680.

Description of Work:

The proposed project would construct on- and off-ramps connecting to the I-680 median HOV lanes, in both northbound and southbound directions, at a replaced Norris Canyon Road Overcrossing. The proposed HOV/express bus on- and off-ramps and the associated auxiliary lanes would be added in the median, and therefore the I-680 mainline lanes would need to be shifted to the outside between Fostoria Way Overcrossing (postmile [PM] R4.4) and just north of Bollinger Canyon Road Overcrossing (PM R2.9). The project limits are illustrated in Figure 1, and described in more detail in this section.

Both directions of the proposed I-680 mainline would have one 12' HOV lane, three 12' mixed-flow lanes and one 12' auxiliary lane, in compliance with current highway design standards for lane widths. To accommodate the proposed HOV facility at Norris Canyon Road, the mainline lanes would undergo a transition that begins at Bollinger Canyon Road and ends at Fostoria Way Overcrossing. This transition would consist of restriping and pavement widening. The outside shoulder would be 10' wide to meet standards. The inside shoulder would comply with the 10' standard width, except between Crow Canyon Road and Fostoria Way Overcrossings, where the proposed inside shoulder width varies from 2' to 10'. The transition striping at this location is constrained by the existing bridge columns supporting the Crow Canyon Road Overcrossing.

A 12' HOV auxiliary lane for a distance of up to 1,000' would be provided in the median upstream and downstream of each HOV ramp, in accordance with the current HOV Guidelines. Both the northbound and southbound HOV off-ramps would be single-lane off-ramps that widen to two lanes near the ramp termini on Norris Canyon Road. The proposed ramps would comply with current highway design standards, and would include one 12' lane, 4' inside shoulder and 8' outside shoulder, or two 12' lanes and a minimum of 2' inside and outside shoulders nearby the ramp intersection. The HOV on- and off-ramps would be constructed on an embankment retained by retaining walls, which would allow the ramp profiles to rise above the existing grade of I-680.

The freeway widening needed to accommodate the project would require construction of retaining walls along the proposed outside edge of shoulder to minimize right-of-way (ROW) impacts. Widening would also result in the need to reconstruct or remove existing overhead signs, retaining walls, concrete barriers, drainage structures, highway lighting, and highway planting. Temporary construction easements would need to be acquired from several properties abutting the freeway due to construction of the retaining walls.

As proposed, Norris Canyon Road would have three through lanes in the eastbound direction, two through lanes in the westbound direction, and one median turn lane between Bishop Drive and San Ramon Valley Boulevard. All six lanes would be 12' wide. Both directions of Norris

Canyon Road would have 5' pedestrian sidewalks and 5' shoulders, which can accommodate a Class II bicycle facility (bicycle lane). The resulting roadway cross-section would be wider than the existing by approximately 14'. Due to the constraint with vertical clearance along the southern edge of the existing overcrossing, the additional widening would occur on the north side of Norris Canyon Road. This would require realigning the centerline of Norris Canyon Road to the east, and installing retaining walls along the north side of Norris Canyon Road. ROW acquisition and temporary construction easements would be needed for construction of the retaining walls and the anticipated utility relocation work.

The proposed Norris Canyon Road Overcrossing would be a two-span, precast concrete I-Girder bridge with spans of 112 feet and 114 feet. The precast option is preferred because there is inadequate vertical clearance for falsework to construct a cast-in-place post tensioned box girder option while maintaining all lanes of traffic on I-680. The abutments for the replacement bridge would be high cantilever abutments supported on driven concrete piles. The bent would consist of a drop cap supported on 4-foot-diameter round columns founded on pile caps with driven concrete piles.

Several ramps at the Crow Canyon Road Interchange, including the northbound off-ramp, southbound diagonal on-ramp and loop on-ramp, would also need to be slightly realigned as a result of the mainline lane shift.

Funding is currently available for the project through the Measure J transportation ½ cent sales tax and through the Tri-Valley Transportation Development Fund (TVT DF) Strategic Expenditure Plan, with specific funding levels still to be determined. Additional funding will be pursued for this project. The project is included in the Regional Transportation Plan (RTP), and is consistent with the goals and policies set forth by all involved agencies, including the Contra Costa Transportation Authority (CCTA), California Department of Transportation (Caltrans), City of San Ramon, and the Central Contra Costa Transit Authority (a.k.a. County Connection).

By improving access to regional transit connections, such as the express buses that connect Bishop Ranch to various BART stations, the project would support already planned economic development within the San Ramon Valley, and in particular within the City of San Ramon, by facilitating more efficient multi-modal transportation to and from the City Center. The City of San Ramon has recently been designated a Priority Development Area (PDA) by ABAG and MTC, thereby supporting the goals of encouraging greater HOV use and express bus use. The project is also consistent with other regional plans including the Regional HOV Master Plan, the development of a Bay Area High Occupancy Toll Network (HOT lanes), and Regional Measure 2 legislation. Today, approximately 25,000 people work in San Ramon/Bishop Ranch Business Park; of which 25% use a commute alternative (transit, carpool, vanpool, etc.)

The project cost for this alternative is summarized in Table 1 below.

Table 1: Alternative 1 Estimated Costs (2009 dollars)

Item	Estimated Cost
Roadway Items	$57,831,000
Structure Items	$5,867,000
Total Construction Cost	**$63,698,000**
Right of Way Items	$801,000
Total Alternative 1 Capital Cost	**$64,499,000**

Alternatives:

The only practicable alternative to the proposed project is the No-Build alternative. Locating the HOV direct access ramps at either the Crow Canyon or Bollinger Canyon Interchange would not be cost-effective and would not address the project objective of reducing travel times for HOVs and express buses, since they would still need to travel through the congested intersections and roadways in the proximity of these interchanges. In addition, these locations would require the complete reconstruction of that interchange, which would be much more disruptive to traffic operations.

The No-Build alternative would leave the HOV facility unchanged. The express buses and the HOVs that utilize the HOV lanes would continue to weave across all mixed-flow lanes from the median HOV lane to exit either at Bollinger Canyon Road or Crow Canyon Road, and vice versa in the other direction (entering the freeway via either Bollinger or Crow Canyon and weaving across all mixed-flow lanes to the median HOV lane). Other proposed projects in the area, including the I-680 Auxiliary Lane Improvement Project, the San Ramon City Center Project, and the Northwest Specific Plan, would be implemented as planned.

N

0 0.5 1 Miles

FIGURE 1
PROJECT LIMITS
I-680/NORRIS CANYON ROAD PSR
SAN RAMON, CA

CH2MHILL

ES082009001SFO Fig1_ProjectLimits.ai 8/4/09 ez

Anticipated Environmental Approval

CEQA	NEPA
☐ Categorical Exemption	☒ Categorical Exclusion
☒ Initial Study/Negative Declaration	☐ Environmental Assessment with a Finding of No Significant Impact
☐ Environmental Impact Report	☐ Environmental Impact Statement

Lead Agency	The California Department of Transportation (Caltrans) is the CEQA Lead Agency for this project. If there is federal participation in the project, Caltrans will be the NEPA Lead Agency.

Estimated time to obtain environmental approval	Once a written request for initiation of environmental studies from the Project Manager to the District Environmental Chief has been completed, the estimated time to obtain environmental approval for the proposed project is 18 to 24 months after receiving information necessary to begin the studies per Felker memo dated November 28, 2001.

Estimated person hours to complete environmental document	Env Analysis	750
	Biology/Permits	310
	Cultural	380
	Hazardous Waste	300
	Air & Noise	0
	Water Quality	42
	Landscape	200
	Prog/Proj Mgt	40
	Total (1.15) PYs	2022 Hrs

Disclaimer

This Preliminary Environmental Analysis Report (PEAR) provides information to support programming of the proposed project. It is not an environmental document for environmental approval. Preliminary analyses, determinations, and mitigation cost estimates are based on the scope of the project as described in the Project Study Report (PSR). The estimates and conclusions in this PEAR are approximate and based on cursory analyses of probable effects. A re-evaluation of the PEAR will be needed for changes in scope, alternatives, or environmental laws, regulations, and guidelines.

Reviewed by

Deborah A. Dagang Environmental Manager (Deborah Dagang, CH2M HILL)	1-14-10 Date
Yadollah Fathollahi Project Manager (Yadollah Fathollahi)	3/2/10 Date

Environmental Technical Reports or Studies Required

	Study or Report	Document Text Only	Not Anticipated
Community Impact Study	☐	☐	☒
Farmland	☐	☐	☒
Section 4(f) Evaluation	☐	☐	☒
Visual Resources	☒	☐	☐
Water Quality	☒	☐	☐
Floodplain Evaluation	☐	☒	☐
Noise Study	☒	☐	☐
Air Quality Study	☒	☐	☐
Paleontology	☐	☐	☒
Wild and Scenic River Consistency	☐	☐	☒
Cumulative Impacts	☐	☒	☐
Growth Inducing/Indirect Impacts	☐	☒	☐
Cultural			
Archaeological Survey Report (ASR)	☒	☐	☐
Historic Resources Evaluation Report (HRER)	☐	☐	☒
Historic Property Survey Report (HPSR)	☒	☐	☐
Historical Resource Compliance Report	☐	☐	☒
SHPO / PRC 5024.5	☐	☒	☐
Native American Coordination	☐	☒	☐
Other: Finding of Effect:	☐	☐	☒
Data Recovery Plan:	☐	☐	☒
Memorandum of Agreement* (*if Federal Permit is required)	☐	☐	☒
Hazardous Waste			
ISA (Additional)	☐	☐	☒
PSI	☒	☐	☐
Other	☐	☐	☒
Biological			
Endangered Species (Federal)	☐	☐	☒
Endangered Species (State)	☐	☐	☒
Species of Concern (CNPS, USFS, BLM, S, F)	☐	☐	☒
Biological Opinion (USFWS, NMFS, State)	☐	☐	☒
Fish Passage Barriers Assessment	☐	☐	☒
Wetlands	☒	☐	☐

	Study or Report	Document Text Only	Not Anticipated
Invasive Species	☒	☐	☐
Natural Environment Study	☒	☐	☐
NEPA 404 Coordination	☐	☐	☒
Other	☒	☐	☐
Permits			
401 Permit Coordination	☐	☐	☒
404 Permit Coordination	☐	☐	☒
1602 Permit Coordination	☐	☐	☒
City/County Coastal Permit Coordination	☐	☐	☒
State Coastal Permit Coordination	☐	☐	☒
NPDES Permit (402) Coordination	☒	☐	☐
U.S. Coast Guard (Section 10)	☐	☐	☒

Discussion of Technical Review

Summary

Based on past experience with similar actions and information provided by reviewers to date, the appropriate document for project compliance with the California Environmental Quality Act (CEQA) under state regulations (14 California Code of Regulations §15304 [h]) is a Mitigated Negative Declaration (MND). If the National Environmental Protection Act (NEPA) applies, a Categorical Exclusion will be prepared under federal regulations (Section 6004 of 23 U.S.C 326 activities listed in 23 CFR 711.117 [d] [7] [Approvals for changes in access control]). In order to determine whether these are the appropriate environmental review documents for the project, and to determine what mitigation would be needed to minimize project impacts, additional studies would be required during the Project Approval & Environmental Documentation (PA/ED) phase of the project. As discussed in the analysis below, these would include: a Preliminary Site Investigation (PSI) to assess whether hazardous materials are present within the limits of the project; an air quality analysis; a noise analysis; a Natural Environment Study (NES); a Storm Water Pollution Prevention Plan (SWPPP); a Visual Impact Technical Study; an Archeological Survey Report (ASR); and a Historic Property Survey Report (HPSR). Additionally, compliance with Section 106 of the National Historic Preservation Act (NHPA), including Native American coordination, would be required.

Air and Noise

The proposed project could help reduce air quality impacts by providing facilities for transit and increased ride sharing. The region is in non-attainment for some pollutants. Both local conformity under federal regulations (40 CFR 93.126) and regional conformity under 40 CFR 93.127 would be required for the proposed project. Therefore, a conformity determination is required and an Air Quality Technical Report should be prepared. Because no action would be taken under the No Build alternative, no conformity determination would be required.

The principal source of outdoor noise within the project study area is vehicular traffic on I-680 and local roads. Sensitive receptors consist primarily of residential land uses.

Under the No Build alternative, these conditions would remain unchanged.

The project could increase noise levels by moving the traveled way closer to sensitive receptors. The proposed project would widen I-680 from the on- and off-ramps north of Bollinger Canyon Road to Fostoria Way. It would widen I-680 to the outside to accommodate HOV direct access ramps and the associated auxiliary lanes for both north and southbound directions. The project would also construct retaining walls along the outside widening at constrained locations and construct embankment and retaining walls along the center of I-680. The project does not involve the building of a highway at a new location, the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment, or an increase in the number of through-traffic lanes; therefore, significant noise impacts are not anticipated. However, in order to determine whether the project is likely to increase noise levels in the project area, and what the impacts of the project are likely to be on sensitive receptors within and adjacent to the limits of the project, a noise analysis should be prepared during the PA/ED phase of the project.

Hazardous Waste/Materials

Potential contamination of soil and groundwater could result from the proposed project. Some contamination could occur during project construction as a result of aerially deposited lead (ADL). Environmental engineering staff will conduct a detailed subsurface site investigation during the design phase. A PSI report would be required for the project. In general, $200 per cubic meter (or $150 per cubic yard) should be allocated for handling hazardous materials waste in areas where soil is to be excavated in unpaved areas. The total disturbed soil area for the proposed project would be approximately 13 acres. The area was estimated based on the exposed and erodible soil that would potentially have temporary and permanent construction impacts.

As no action would be taken under the No Build alternative, no hazardous waste/materials impacts would occur.

Water Quality and Erosion Control

Existing drainage systems within the project limits consist mostly of ditches, culverts and storm drain inlets. Principal features of the project that would impact existing drainage facilities include the widening of I-680 and the addition of retaining walls along the outside widening. The Norris Canyon Road Overcrossing also would be replaced. Additional inlets and longitudinal systems may need to be specified, new drainage systems may need to be proposed, and existing drainage systems would need to be relocated along the edge of the shoulders. These proposed drainage systems would be designed to intercept storm water runoff from I-680. Runoff, which includes both off-site flows from the City of San Ramon and on-site flows from I-680, is conveyed under I-680 and discharges to San Ramon Creek. Drainage designs would adhere to the methodologies specified in the fifth edition of the Caltrans Highway Design Manual (HDM) and the City of San Ramon drainage design criteria, depending on which jurisdiction the proposed drainage system modifications are located within.

A Draft Preliminary Drainage Report has been prepared for the project. This report summarizes existing soil and drainage conditions in the project limits and potential project-related drainage and water quality impacts. The report also lists potential Best Management Practices (BMPs) that

may be utilized to control sedimentation and erosion and to control the discharge of pollutants both during project construction and after its completion.

Drainage systems under the No Build alternative would remain unchanged.

National Pollutant Discharge Elimination System Permit

The project would comply with the conditions of Caltrans' statewide National Pollutant Discharge Elimination System (NPDES) permit for Storm Water Discharges from the State of California Properties, Facilities, and activities (Order No. 99-06-DWP, NPDES No. CAS00003) issued by the State Water Resources Control Board (SWRCB). These permits require addressing temporary water quality impacts from construction activities and post-construction water quality impacts from routine operation of the highway system. At this time, there are no key negotiated understandings or agreements with the Regional Water Quality Control Board (RWQCB) pertaining to this project.

Best Management Practices

Project BMPs generally would include: Permanent Design Pollution Prevention BMPs; Temporary Construction Site BMPs; Permanent Treatment BMPs; and if needed, Maintenance BMPs. Treatment BMPs that have been considered for this project include: infiltration devices, biofiltration strips, wet basins, biofiltration swales, Austin sand filters, detention devices, Delaware filters, and multi-chamber treatment trains. Treatment BMPs that are considered feasible for the project include biofiltration strips and biofiltration swales. Following is a discussion of the BMPs considered for the proposed project, as well as a description of the BMPs that have been deemed feasible for this project.

Proposed Permanent Design Pollution Prevention BMPs

1) Downstream Effects Related to Potentially Increased Flow: Generally, in comparison to the overall watershed of San Ramon Creek, the project would create minimal increase in runoff. The project adds 5.4 acre of impervious area. The San Ramon Creek drainage area is 22,146 acres. Therefore, the project would have an increase of 0.024 percent of impervious area to the San Ramon Creek Watershed. Under current regulations, projects with 10,000 sq ft or more of added impervious areas trigger hydrograph modification (or hydromodification) requirements. The added impervious area for this project is 5.4 acres (or 231,000 sq ft) and thus may be subject to the Contra Costa County hydromodification requirements.

2) Slope/Surface Protection Systems: Although the soils within the project location have a high soil tolerance factor, the project would disturb soil areas. Appropriate stabilization measures would be implemented to prevent erosion after construction such as hydroseeding or use of hydraulic mulch on disturbed slopes. These measures would be implemented during and after construction activities to minimize erosion.

3) Vegetation: There are trees, shrubs and other identified vegetation along I-680. It is anticipated that the project may impact highway vegetation. Further information about types and names of vegetation would be evaluated with the preparation of a Natural Environment Study, which would include an inventory of vegetation in and immediately adjacent to the project limits. All vegetation removed during project construction would be replaced in-kind or using native vegetation to the extent feasible. The visual effects of vegetation removal will be assessed as part of a Visual Impact Assessment.

4) Concentrated Flow Conveyance Systems: Concentrated flow conveyance systems such as ditches, dikes, downdrains, flared end sections (FESs), and outlet protection/velocity dissipation devices will be considered during the design phase to intercept, divert and convey surface flows and discharge with minimum soil erosion. Dikes would route the water to existing and proposed drainage inlets. There are existing swales running along I-680 northbound and southbound, between Bollinger Canyon Road and Norris Canyon Road. Two cross culverts (27 in. and 6 ft x3 ft reinforced concrete box [RCB]) are connected to these swales. In addition, FESs and rock slope protection (RSP) would be considered at newly constructed drainage outfalls.

5) Preservation of Existing Vegetation: Areas of clearing and grubbing would be identified and defined in the contract plans. Additional steps would be taken to preserve existing vegetation. Further details of areas to be protected would be evaluated in the design phase of the project. Vegetation removed during construction activities would be replaced in-kind to the extent feasible, and native vegetation would be used wherever possible.

Proposed Permanent Treatment BMPs

The project is required to consider Treatment BMPs since the total disturbed soil area is greater than 3.0 acre and the added impervious area is greater than 1.0 acre. A Targeted Design Constituent (TDC) is a pollutant that has been identified during Caltrans runoff characterization studies to be discharging with a load or concentration that commonly exceeds allowable standards, and that is considered treatable by current available Caltrans-approved Treatment BMPs indicated in Caltrans' 2007 *Project Planning Design Guide* (PPDG). Since there is no TDC for this project, consideration of Treatment BMPs is based on the General Purpose Pollutant Removal order. The General Purpose Pollutant Removal order is broken down into four groups listed in ranking of preferred Treatment BMPs first:

- Group 1: Infiltration Devices
- Group 2: Biofiltration Strips and Wet Basins
- Group 3: Biofiltration Swale and Austin Sand Filter
- Group 4: Detention Device, Delaware Filter and Multi Chamber Treatment Trains (MCTTs)

No on-site dry weather flows are anticipated for the project. Therefore, dry weather flow diversions are not required. Gross Solid Removal Devices (GSRDs) are not required for this project since Alameda Creek is not listed on the 303(d) list as impaired by trash or litter pollution.

Feasible Permanent Treatment BMPs

The proposed Treatment BMPs (biofiltration strips and biofiltration swales) are estimated to treat approximately 95 percent of the added and reworked impervious areas, which equates to approximately 8.5 acre. Feasible Treatment BMPs for the project include the following.

1) Biofiltration Strips: Biofiltration strips are buffer strips (vegetated sections) of land over which storm water flows as overland sheet flow. Biofiltration strips are vegetated surfaces that remove pollutants by filtration through grass, sedimentation, sorption to soil or grass, and infiltration through the soil. Strips are mainly effective at removing debris and solid particles, although some constituents are removed by sorption to the soil.

2) Wet Basins: Wet Basins are permanent pools of water designed to imitate naturally occurring wetlands. What distinguishes a naturally occurring wetland from a wet basin is that a wet basin is placed in upland areas and would not be subject to wetlands protection regulations. There is only one location within the project to consider installation of wet basins; however, due to permanent standing water needed for the design of wet basins, wet basins may not be the preferred choice for the project because the site is located in a residential and commercial area. Standing water would encourage vector-breeding and lead to health hazards; therefore, wet basins, though feasible for this project, may not be recommended by local vector control agencies.

3) Biofiltration Swales: Biofiltration swales are vegetated channels that receive directed flow and convey storm water. Their vegetated surfaces remove pollutants by filtration through grass, sedimentation, sorption to soil or grass, and infiltration through the soil. Swales are mainly effective at removing debris and solid particles, although some constituents are removed by sorption to the soil.

Proposed Temporary Construction Site BMPs

According to Table 2-1 of the Caltrans *Construction Site BMPs Manual*, the project is located within Rainfall Area 2. The required combinations for temporary sediment control and soil stabilization, depending on the rainy season, are: 1) sediment barriers for slopes with a ratio of 4:1 (H:V) or flatter; or, 2) soil stabilization for 4:1 (H:V) or flatter. There are no required combinations of the aforementioned temporary BMPs during the non-rainy season per Table 2-1 of the Caltrans *Construction Site BMPs Manual*. The project construction schedule would span two rainy seasons. Therefore the construction site BMP costs should be adjusted for the additional rainy season accordingly in the design phase of the project.

The construction site BMP strategy for this project would consist of Soil Stabilization Measures, Sediment Control Measures, and Non-Storm Water Management Measures. These measures would be separate bid line items in the Best Engineer's Estimate (BEEs) during the PS&E phase of the project.

The following Soil Stabilization Measures are considered for this project:

- Temporary Hydraulic Mulch (Bonded Fiber Matrix)
- Temporary Cover

The following Sediment Control Measures are considered for this project:

- Temporary Fiber Rolls
- Temporary Check Dams
- Temporary Silt Fence
- Temporary Drainage Inlet Protection

Due to the anticipated grading activities associated with this project, a separate line item for Temporary Construction Entrances should also be considered for tracking control.

Dewatering: No construction work is anticipated to take place in the San Ramon Creek; therefore, no continuous dewatering is anticipated for this project, and no separate bid line item is needed. Dewatering consists of discharging accumulated storm water or surface water from excavations or temporary containment facilities. In general, if needed for cumulative storm water runoff, dewatering would be included in the Construction Site Management as a lump sum cost.

Storm Water Pollution Prevention Program (SWPPP): Since this project is disturbing more than 1 acre of soil, a SWPPP should be prepared by the contractor and should identify BMPs to reduce water quality impacts during construction. The SWPPP should emphasize: 1) standard temporary erosion control measures to reduce sedimentation and turbidity of surface runoff from disturbed areas; 2) personnel training; 3) scheduling and implementation of BMPs throughout the various construction phases and during various seasons; 4) identification of BMPs for non-storm water discharge such as fuel spills; and, 5) mitigation and monitoring throughout the construction period.

Construction Site Management: The project should also include a lump sum cost for Construction Site Management, which consists of controlling potential sources of water pollution before they enter storm water systems or watercourses. In addition, Construction Site Management would include training employees and subcontractors. Training for construction personnel must be provided and must cover the proper selection, deployment and repair of Construction Site BMPs used within project limits.

Construction Site Management lump sum costs may include the following items:

- Spill Prevention and Control
- Materials Management
- Stockpile Management
- Waste Management
- Concrete Waste
- Water Control and Conservation
- Illegal Connection, Discharge Detection and Reporting
- Vehicle and Equipment Cleaning
- Vehicle and Equipment Fueling and Maintenance
- Paving
- Saw Cutting
- Grinding Operations
- Thermoplastic Striping and Pavement Markers
- Concrete Curing
- Concrete Finishing

Maintenance BMPs (Drain Inlet Stenciling)

It is anticipated that there may be inlets needing stenciling within project limits within the City of San Ramon and the Caltrans ROW. Caltrans-approved stenciling would be specified for drainage inlets within the State ROW. Specific locations would be provided for this phase. Plans, Special Provisions, and costs associated with stenciling drainage inlets would be provided in the Contract Documents during PS&E phase.

Under current regulations, projects with 10,000 sq. ft. or more of added impervious areas trigger hydrograph modification (or hydromodification) requirements. The added impervious area for this project is 5.4 acres (or 231,000 sq. ft.) and thus may be subject to the Contra Costa County hydromodificiation requirements. Plans and construction details, special provisions and estimates would be developed for inclusion in contract documents for Water Pollution Control and Erosion Control during the Plans, Specification and Estimates (PS&E) phase.

Additional Regulatory Requirements

Clean Water Act Section 401, 404

The project will adhere to Section 401 and 404 of the Clean Water Act (CWA). Section 401 requires a water quality certification from the State or Regional Water Quality Control Board when a 404 permit is required by the United States Army Corps of Engineers (USACE) for construction. Since this project is not anticipated to cause impacts to any wetlands or Waters of the U.S. or State, a 401 certification would not likely be required from the San Francisco Bay RWQCB. However, to confirm that the project would not impact wetlands or waters within or adjacent to the project limits, and that no 401 permit would be needed, a survey for potential waters and wetlands within and adjacent to the project site should be completed.

Porter-Cologne Water Quality Control Act

Pursuant to the Porter-Cologne Water Quality Control Act, the SWRCB has authority over waste discharges to Waters of the State. Waters of the State currently include isolated wetlands and wetlands/waters not under the jurisdiction of the USACE. The SWRCB currently is in the process of revising its definition of Waters of the State to also potentially include riparian areas and roadside ditches. To ensure that the project avoids impacts to Waters of the State to the maximum extent practicable, guidelines regarding Waters of the State should be consulted during the PS&E phase.

Storm Water Data Report

A Storm Water Data Report (SWDR) has been prepared to summarize the process for compliance with the NPDES permit. The SWDR will be updated at each major phase of the project prior to construction. Additionally, Standard Special Provisions (SSPs) will be included in the project's Plans Specifications and Estimates package in order to comply with the NPDES permit and to address the potential for water quality impacts resulting from project construction. SSPs will require that the contractor prepare a SWPPP and implement BMPs, as described above.

Biological Resources

The project is within the San Ramon Creek watershed which extends northeast of the I-680 corridor. The San Ramon Creek headwaters begin west of San Ramon and flow northeast crossing underneath I-680 just south of Diablo Road approximately 2 miles north of the project limits. The creek eventually flows into Walnut Creek and enters the western end of the Suisun Bay via Pacheco Creek.

Vegetation along the I-680 corridor and the adjacent developments is dominated by ornamental shrubs and trees. Ornamental shrubs include oleander (*Oleander* sp.), myoporum (*Myoporum* sp.), rock rose (*Rosa* sp.), and manzanita (*Arctostaphylos* spp.). Ornamental trees include eucalyptus (*Eucalyptus* sp.), pine (*Pinus* sp.), pepper tree (*Schinus molle*), and Chinese elm (*Ulnus parvifolia*). In some areas, non-native annual grassland/ruderal habitat can be found interspersed within the developments adjacent to the I-680 corridor. Annual species in these disturbed areas include wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), mustards (*Brassica* spp.), and thistles (*Silybum marianum*).

Literature and Background Review

A preliminary assessment of biological resources within the proposed project area was conducted in April and Map of 2008. The assessment was based on a review of technical reports prepared for projects located within the region, a review of the California Natural Diversity Database (CNDDB), a review of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California, and a reconnaissance-level field survey conducted in April 2008 by CH2M HILL biologist Danielle Tannourji.

The primary technical report referenced for this project was the *Natural Environment Study Report for the I-680 Auxiliary Lane Improvements Project, Contra Costa County* (Entrix, 2002) which includes the limits of the entire proposed project. Information on water resources within the project limits was obtained from the *Storm Water Data Report for the I-680 Auxiliary Lane Improvements Project, Segment 1 Sycamore Valley Road to Diablo Road and Segment 3 Bollinger Canyon to Crow Canyon Road* (DMJM + Harris, 2003a). Additionally, the *Geotechnical Design and Materials Report for the I-680 Auxiliary Lane Improvements Project: Segment 3* (DMJM + Harris, 2003b) provided data on soils.

The CNDDB and CNPS records were analyzed using Geographic Information System (GIS) software and available aerial imagery of the region to adequately locate all special-status species occurrences within a 5-mile radius of the project limits. A total of 30 special-status species occur within this 5-mile radius, including 16 plants and 14 wildlife species. Of these, five species are covered under the federal and/or state Endangered Species Act:

1) California tiger salamander (*Ambystoma californiense*) listed as federally threatened;
2) San Bruno elfin butterfly (*Callophrys mossii bayensis*) listed as federally endangered;
3) Alameda whipsnake (*Masticophis lateralis euryxanthus*) listed as federally- and state-threatened;
4) California red-legged frog (*Rana aurora draytonii*) listed as federally threatened; and
5) San Joaquin kit fox (*Vulpes macrotis mutica*) listed as federally endangered and state threatened.

The remaining 25 species consist of CNPS List 1B plant species and California Department of Fish and Game (CDFG) Species of Special Concern. Below is a summary of CNDDB occurrences within and near the project limits.

Special-Status Species Records

To date, no CNDDB records of special-status species exist within the project limits. Two special-status species have been recorded within a mile of the project limits: the Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*); and western burrowing owl (*Athene cunicularia*). The occurrence of Congdon's tarplant is approximately 0.5 mile west of the I-680 corridor along Crow Canyon Road (CNDDB, 1994) and the western burrowing owl is west of Camino Ramon Road, 0.1 mile northwest of Bollinger Canyon Road (CNDDB, 2004).

Two federally listed species have been reported within 3 miles of the project limits. The California red-legged frog has one occurrence approximately 1.5 miles northwest of the Crow Canyon Road/I-680 intersection along banks of the San Ramon Creek (CNDDB, 2003) and one occurrence 2.5 miles west of the same intersection within an unnamed tributary to San Ramon

Creek (CNDDB, 2006). The San Joaquin kit fox was sighted in 1989 near Dougherty Road and Crow Canyon Road. In addition to these listed species, the western pond turtle (*Clemmys marmorata*), Diablo's helianthella (*Helianthella castanea*), and Congdon's tarplant have also been recorded within 3 miles of the project limits.

Reconnaissance Survey Findings

A reconnaissance-level survey was conducted on April 7, 2008 by CH2M HILL biologist Danielle Tannourji. The survey consisted of walking the accessible areas of the project limits and adjacent areas to assess existing conditions and to determine if sensitive biological resources were present onsite. Surveys showed that the area within project limits is highly urbanized and does not appear to include wetlands or other sensitive habitats known to support special-status species. The existing vegetation within the ROW consists mostly of ornamental plantings and trees that do not provide potential habitat for federally or state listed biological resources known to occur within the region.

San Ramon Creek and many of its unnamed tributaries do occur within 3 to 5 miles of the project limits, and some native habitats that support special-status species are located within the San Ramon Creek watershed. However, these native habitats were not observed within or immediately adjacent to the project limits. As described below, preparation of a Natural Environment Study for the project will help determine where special species habitats are located in relation to the limits of the project.

Potential Impacts and Mitigation

Wetlands, waters, and other sensitive native habitats do not appear to occur within the project limits; thus, impacts to these sensitive resources are not expected to occur during project construction. As mentioned above, an NES would be prepared to assess potential impacts to sensitive habitat and species. A delineation of jurisdictional wetlands and waters of the United States also would be required to document the presence/absence of jurisdictional wetland and water features within and adjacent to the project limits to ensure that impacts to these sensitive habitats are avoided or minimized. BMPs, as recommended in the SWPPP, would be implemented during construction to minimize any potential impacts to nearby wetlands and waters. Thus, waters draining from the project limits are not expected to directly or indirectly affect the San Ramon Creek watershed.

Construction activities such as tree removal and pruning during the breeding season may have the potential to impact nesting birds or raptors covered under the Migratory Bird Treaty Act (MBTA). The following birds protected under the MBTA were observed onsite: red-tailed hawk (*Buteo jamaicensis*), western scrub jay (*Aphelocoma californica*), northern mockingbird (*Mimos polyglottos*), mourning dove (*Zenaida macroura*), mallard (*Anas platyrhynchos*), Canada goose (*Branta canadensis*), black phoebe (*Sayornis nigricans*), and cliff swallow (*Hirundo pyrrhonota*). However, no nests were observed during the field survey.

Pre-construction nesting surveys would be required for the proposed project to avoid and minimize any potential impacts to nesting birds or raptors covered under the MBTA. In addition, trees removed from within the project limits would be replanted where feasible within appropriate regions of the ROW to mitigate for loss of potential nesting sites for the existing wildlife in the project limits. Prior to construction, the NES would document in detail the

existing biological resources onsite and analyze the potential direct or indirect impacts to the natural environment including federal and state special-status species.

Surveys Required

Surveys necessary for documenting existing biological resources within and adjacent to limits of the project include plant and wildlife surveys during the growing season and breeding periods of the region to adequately assess existing conditions and potential impacts associated with the proposed project. In addition, a wetland delineation survey and report will be required to document the presence/absence of jurisdictional wetlands and waters as per Section 404 and 401 of the Clean Water Act (CWA) within or within close proximity to the project limits. Prior to construction, a tree survey would be required to document all tree species, diameter, and locations planned for removal within the project limits. This would include an inventory of all vegetation within and immediately adjacent to the project limits, to be conducted by a biologist or qualified landscape professional. In addition, a pre-construction nesting survey would be required to identify any nesting birds within the project limits before construction takes place in order to protect those species covered under the MBTA.

Agency Coordination

Coordination with CDFG and City of San Ramon may be required during the project permitting process for nesting birds and tree impacts. USACE coordination is not expected to be required, but this would be determined based upon the results of the wetland delineation report. It is also not anticipated that consultation with the U.S. Fish and Wildlife Service (USFWS) regarding potential impacts to listed species will be necessary, although the results of the NES will determine future permitting actions required under the Endangered Species Act.

Wetlands

As mentioned previously, waters of the U.S. (including wetlands) were not observed within the project limits during the April 2008 reconnaissance survey. Thus, the project is not expected to directly impact any jurisdictional features. However, the potential does exist for the project to indirectly affect wetlands, as a narrow manmade culvert dominated by obligate wetland species including cattails (*Typha* spp.) was observed within 500 feet of the project's southeastern boundary along the Bollinger Canyon Road northbound off-ramp during the April 2008 reconnaissance survey. Therefore, a wetland delineation detailing the three wetland parameters is required to conclude whether or not this feature or any other features within 500 feet of the project site are jurisdictional and may be indirectly affected during project construction. Although it is not expected, if jurisdictional wetlands or waters of the U.S. do exist within close proximity to the limits of the project, informal consultations with the USACE and RWQCB may be necessary in the form of submitting a wetland determination report for approval of the survey findings, impact analysis, and the proposed avoidance measures. Approved measures would be proposed and included in the SWPPP to ensure no net loss of wetlands as per Section 404 and 401 of the CWA. If indirect impacts to jurisdictional features can be avoided, permits under Section 404 and 401 would not be required.

In addition, Executive Order 11990 requires an avoidance alternative analysis for wetland impacts unless there is no practicable alternative available. Any impacts to waters of the U.S. and wetlands from the project and any temporary access roads would need to be quantified. As part of the proposed project, any potential impacts to nearby wetlands and waters would be

minimized by capturing and treating all runoff before it enters the groundwater. Thus, waters draining from the project limits are not expected to directly or indirectly affect the San Ramon Creek watershed.

Visual Effects

The project site consists of a segment of Interstate 680, a highway serving regional and inter-city trips that extends approximately 70 miles from I-80 in Solano County to the U.S. Route 101 Interchange in Santa Clara County. I-680 represents a major transportation link for travelers within the San Francisco Bay Area between the East Bay and the South Bay. This six-lane highway is bordered by residential, commercial and office uses. Along some stretches, the highway is separated from adjacent uses by fencing and vegetation, and in other areas retaining walls separate outside lanes from adjacent uses.

The project is situated within a segment of Interstate 680 that is a designated Scenic Route. As part of its General Plan, Contra Costa County has set forth the following Scenic Route Policies. These policies were developed in support of Goal 5-R of the County General Plan: "To identify, preserve and enhance scenic routes in the County."

Scenic Routes Polices:

- 5-35. Scenic corridors shall be maintained with the intent of protecting attractive natural qualities adjacent to various roads throughout the county.
- 5-36. The planning of scenic corridors shall be coordinated with and maximize access to public parks, recreation areas, bike trails, cultural attractions, and other related public developments.
- 5-37. Scenic views observable from scenic routes shall be conserved, enhanced, and protected to the extent possible.
- 5-38. The existing system of scenic routes shall be enhanced to increase the enjoyment and opportunities for scenic pleasure driving to major recreational and cultural centers throughout this and adjacent counties.
- 5-39. Multiple recreation use, including trails, observation points, and picnicking spots, where appropriate, shall be encouraged along scenic routes.
- 5-40. Continued efforts shall be made in cooperation with California Department of Transportation to achieve State and scenic route recognition for appropriate routes in the County.
- 5-41. Design flexibility shall be encouraged as one of the governing elements for aesthetic purposes in the construction of roads within the scenic corridor.
- 5-42. For lands designated for urban use along scenic routes, planned unit developments shall be encouraged in covenant with land development projects.
- 5-43. Provide special protection for natural topographic features, aesthetic vies, vistas, hills and prominent ridgelines at "gateway" sections of scenic routes. Such "gateways" are located at unique transition points in topography or land use, and serve as entrances to regions of the County.

- 5-44. Aesthetic design flexibility of development projects within a scenic corridor shall be encouraged.

Where appropriate, the project would adhere to these policies. The visual setting would remain unchanged under the No Build alternative.

Design elements of the proposed project, including construction of embankment and retaining walls, widening of on- and off-ramps, expansion of the existing Norris Canyon Road Overcrossing, and removal of vegetation along the roadway associated with such activities could result in visual impacts. A Visual Impact Assessment should be prepared during the PA/ED phase of the project in order to evaluate project-related visual impacts. Because the removal of trees and other vegetation is likely to result in changes to the visual character along this Scenic Highway Corridor, the Visual Impact Assessment would include an inventory of the number and type of vegetation, including trees, to be removed during project construction. Based on the findings of the Study, mitigation will be recommended where appropriate. Visual impacts associated with vegetation removal would be minimized by replacing vegetation in-kind or with native vegetation to the extent feasible.

Because the project would not result in substantial changes to the visual character within the project limits, significant visual impacts are not anticipated. The project would not increase the vertical profile of the overcrossing, and all vegetation removed during project construction would be replaced to the extent feasible. As mentioned above, visual impacts associated with the project would be analyzed in greater detailed through preparation of a Visual Impact Assessment.

Cultural Resources

Due to federal involvement in the project, compliance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, 36 CFR §800, will be required in accordance with the 2004 *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (hereafter, the PA).

A Historic Property Survey Report (HPSR) will be required in order to document Caltrans findings of no historic properties within the project limits of potential effects (APE), no historic properties affected, and no adverse effect with standard conditions. A HPSR will also be required to request the State Historic Preservation Office's (SHPO's) concurrence on determinations of eligibility or ineligibility for properties within the project APE that are evaluated as part of the project.

A review of the proposed project indicates that there are no architectural resources in the area that appear to require evaluation for eligibility, as such it is unlikely that a Historic Resource Evaluation Report (HRER) would be required for the project

There is the potential for archaeological resources to be located within the project limits. To document both positive and negative archaeological survey results for the project APE, an Archaeological Survey Report (ASR) would be prepared. This would include Native American Coordination and a records search at the Northwest Information Center of the California Historical Resources Information System (CHRIS).

Any known or previously unknown identified within the APE, that cannot be avoided would need to be evaluated to determine eligibility. If any archaeological resources are determined to be eligible, a Finding of Effect report (FOE) and a Memorandum of Agreement (MOA) would be required. Data Recovery is the typical mitigation of an adverse effect to archaeological sites. A Data Recovery Plan, prepared to detail the scope of the mitigation effort, would be attached to the MOA.

Community Impact

The project is not expected to have any effects on the local community or the economy.

Potential project impacts to population growth/sprawl, local economy, municipal or community services, utility services, community character, and existing and proposed land uses will be evaluated during PA/ED for both alternatives. Potential impacts to views enjoyed by the surrounding community, for instance, would be evaluated with the preparation of a Visual Impact Assessment. As part of this analysis of visual impacts, project compatibility with local General Plan policies pertaining to viewsheds and scenic roadways would be examined. Potential air and noise impacts would be evaluated in separate studies, which would identify sensitive receptors near the project site. Potential impacts to municipal and other community services, existing and proposed land uses, and population growth would be evaluated in the CEQA document to be prepared for the project. Based on these studies, mitigation would be developed where appropriate to avoid or minimize community impacts.

Under Title VI of the Civil Rights Act of 1964 and related studies, Caltrans ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers. The project will comply with this statement. Further, the project is not expected to result in environmental justice impacts, as implementation of the project would not result in unfair treatment of any individual or group based on their race, color, national origin, or income. While the level of public controversy surrounding this project is not expected to be high, any public involvement would draw on input from all stakeholders within the project vicinity, regardless of race, color, national origin or income.

Context Sensitive Solutions

The proposed project has incorporated a context sensitive solution approach. The following are early planning activities and community involvement efforts that were undertaken during this initial phase of project development:

1) Identify project stakeholders, including City of San Ramon staff and elected officials, local residents, local businesses, and other community members with an interest in the project.
2) Involve stakeholders in the identification of issues and characteristics that may influence the project.
3) Engage stakeholders in a series of meetings to identify potential issues and concerns.

As a result of early planning activities and community involvement efforts, the following occurred in the scope of the project:

1) Some changes were made in project design to ensure that the project would not conflict with community goals or the natural environment.
2) The project was designed such that views within this designated scenic corridor would not be adversely affected. This was achieved by designing the overcrossing so that the vertical profile would not be increased from existing conditions.
3) Full sidewalks and bike lanes in both directions of the Norris Canyon Road Overcrossing have been incorporated into the project.

Cumulative Impacts

Potential project-related cumulative impacts will be evaluated during PA/ED. Mitigation will be developed where appropriate. At this time, it is expected that all project-related impacts could be mitigated to a less than significant level, and that cumulative impacts associated with the project are not anticipated.

Climate Change

Per the Office of Planning and Research, the Technical Advisory dated June 19, 2008 provides guidance to CEQA lead agencies by suggesting that lead agencies identify potential greenhouse gas (GHG) emissions, assess any potential impacts, identify appropriate and feasible alternatives, and recommend mitigation where appropriate. The need to identify increased emissions and/or expanded carbon footprint due to increased vehicles miles traveled (VMT) will be evaluated, and mitigation recommended where appropriate, during PA/ED.

Growth-inducing/Indirect Effects

This project will improve travel times for HOVs in the peak period, which could result in increased use of HOV lanes and demand for additional infrastructure to accommodate HOVs. The growth-inducing impact from this shift to HOVs would likely be limited, and should be studied during PA/ED.

Right-of-Way

A small portion of one property at the northwest quadrant of the Norris Canyon Interchange would need to be taken for the proposed project. This would result in a reduction in the buffer area between Norris Canyon Road and the parking area located on the property. This take would not result in a reduction in the number of parking spaces available in the existing parking area, nor would it reduce the economic viability of the property. It is not anticipated that additional new ROW would be required for the project, including the proposed drainage improvements.

Additional investigations will be needed during PA/ED to confirm ROW needs. Temporary construction easements would be required to construct widening and other improvements along I-680 and Norris Canyon Road. Permanent easements may also be required for maintenance of new retaining walls or the relocated utilities.

Utilities

Since the project includes replacement of the Norris Canyon Road Overcrossing, the utilities on the existing bridge would need to be relocated to the new bridge. Utility facilities in the overcrossing include irrigation water, gas, fiber optic, electric, cable television, and signal

interconnect. Construction of the bridge foundation would also require relocation of an underground sewer line that crosses I-680 just to the north of Norris Canyon. Utility relocation may also require relocation of the associated utility easement.

Section 4(f)

No Section 4(f) resources are located in or adjacent to the project limits; hence, no impacts would occur.

Floodplains

The area at the northern limits of the project (at Fostoria Way) is within the Federal Emergency Management Agency's (FEMA's) delineated 110-year base floodplains associated with San Ramon Creek. The San Ramon Creek floodplain is delineated on Flood Insurance Rate Map (FIRM) Panels 060707 0003 A (for the City of Danville) and 060710 0001 B (for the City of San Ramon). San Ramon Creek is conveyed under I-680 through a culvert. The area upstream of the culvert, and adjacent to I-680, is also shown to be contained in the San Ramon Creek channel. The area downstream of the culvert falls within FEMA-designated Zones AE and X. Zone AE corresponds to the 1-percent annual chance floodplains that are determined by detailed methods of analysis. Zone X corresponds to areas outside of the 1-percent annual chance floodplains, areas of 1-percent annual chance sheet flow flooding where average depths are less than 1 ft, areas of 1-percent annual chance stream flooding where the contributing drainage area is less than 1 sq mi, or areas protected from the 1-percent annual chance flood by levees. The downstream Base Flood Elevation is indicated as 473 ft NGVD 29 (476 ft NAVD 88).

An assessment would be made during PE&ED to determine if the project would result in impacts to floodplain values. Appropriate mitigation will be developed for any potential impacts to floodplains.

Farmlands

No farmlands are located in the project limits; hence, no impacts would occur.

Native American Coordination

Identification of historic properties must be made in consultation with Native Americans. The Section 106 Programmatic Agreement (*2004 Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it pertains to Administration of the Federal-Aid Highway Program in California*) authorizes Caltrans to conduct consultation with Indian tribes, with the Federal Highway Administration (FHWA) retaining ultimate responsibility for direct government-to-government consultation.

The Section 106 process requires that the following parties be invited to participate as consulting parties in the consultation to resolve Adverse Effects to historic properties:

- SHPO [36 CFR §800.2(c)(1)].
- Tribal Historic Preservation Officer (THPO) for tribes that have assumed SHPO responsibilities when affected historic properties are on tribal lands, or representative of a

federally recognized Indian tribe when an undertaking will affect Indian lands or properties of historical or cultural value to the tribe on non-Indian lands [36 CFR §800.2(c)(2)].

- Indian tribes, when the undertaking involves historic properties of religious or cultural significance to the tribe.
- Head of a local government, when the undertaking may affect historic properties within the local government's jurisdiction (its area of authority or control) [36 CFR §800.2(c)(3)].
- Applicants for federal assistance (such as Caltrans), and applicants or holders of grants, permits, or licenses that are subject to Section 106 review [36 CFR §800.2(c)(4)].

Other—Coastal Zone, Wild and Scenic Rivers, Invasive Plant Species

The project site is not located in a Coastal Zone. No federally designated wild and scenic river is located within or near the project limits. Therefore, no impacts to such resources would occur.

The project is not expected to cause or promote the spread or introduction of invasive species. However, the project would comply with Executive Order 13112, which requires that federal agencies carrying out actions that have the potential to affect the status of invasive species 1) identify such actions; 2) not authorize, fund, or carry out such actions that it believes are likely to cause or promote the introduction or spread of invasive species; and 3) if feasible, prevent the spread of invasive species by detecting, controlling, and monitoring the spread of invasive species; providing for the restoration of native habitats; conducting research on invasive species to prevent their spread; and educating the public on invasive species issues. The project may have the potential to promote the spread of invasive plant species. Non-native plant species observed in the project limits would need to be compared to the exotic plant pest list maintained by the California Exotic Pest Plant Council and the list of noxious weeds maintained by the California Department of Food and Agriculture to determine whether or not they are considered invasive species during the PA/ED phase. If invasive species are found in the project limits, mitigation measures would need to be developed during the PA/ED phase to prevent the spread of these invasive species to the extent feasible.

PEAR Mitigation and Compliance Cost Estimate

District 04	County CC	Route I-680	PM R4.7-R7.1	EA 3A860

Description of Work: The project would reconstruct the Norris Canyon Road Overcrossing with on- and off-ramps connecting to the I-680 median HOV lanes, both northbound and southbound. The project would also widen I-680 from the on- and off-ramps north of Bollinger Canyon Road to Fostoria Way, about 1,000 feet north of Crow Canyon Road.

Project Manager	Yadollah Fathollahi	Date	12/09/2009

Prepared by	Man-San Chio	Date	12/09/2009

	Mitigation			Compliance
	Project Feature[1]	**Enviro. Obligation[2]**	**Statutory Require.[3]**	**Permit & Agreement[4]**
Fish & Game 1602 Agreement				
Coastal Development Permit				
State Lands Agreement				
NPDES Permit				
COE 404 Permit- Nationwide				
COE 404 Permit- Individual				
COE Section 10 Permit				
COE Section 9 Permit				
Other: Noise Attenuation				
Special Landscaping	$500,000			
Archaeological				
Biological				
Wetland/Riparian			$7,000	
Historical				
Scenic Resources				
Other: Hazardous Waste	$150/CY			
Tree Survey		$10,000		
Nesting Survey		$2,000		
TOTAL (Enter zeros if no cost)				

Notes:

Costs are to include all costs to complete the commitment including: 1) capital outlay and staff support; 2) cost of right-of-way or easements; 3) long-term monitoring and reporting; and 4) any follow-up maintenance.

[1] Mitigation that Caltrans would normally do if not required by a permit or environmental agreement.

[2] Mitigation that Caltrans would not normally do but is required by conditions of a permit or environmental agreement.

[3] Mitigation that Caltrans would not normally do and is not required by a permit or Enviro. Agreement, but is required by a law.

[4] Non-mitigation Caltrans would not normally do but is required by conditions of a permit or agreement.

Conclusions

District 04	County CC	Route I-680	PM R4.7-R7.1	EA 3A860K

Project Title	I-680 Norris Canyon Road Project

Description of Work: The project would reconstruct the Norris Canyon Road Overcrossing with on- and off-ramps connecting to the I-680 median HOV lanes, both northbound and southbound. The project would also widen I-680 from the on- and off-ramps north of Bollinger Canyon Road to Fostoria Way, about 1,000 feet north of Crow Canyon Road.

CALTRANS DISTRICT PROFESSIONALLY QUALIFIED STAFF (PQS) SIGNATURE

☐ Project does not meet definition of an "undertaking". No further review is necessary under Section 106. ("No" Sec B, #25)

☐ Project meets the definition of an "undertaking," involves the types of activities listed in Attachment 2 of the Section 106 PA, and, based on the project description above, does not have the potential to affect historic properties. ("No" Sec B, #25)

☐ Project meets the definition of an "undertaking" and involves the types of activities listed in Attachment 2 of the Section 106 PA, but the following additional procedures or information is needed, to determine the potential for effect: ("To Be Determined" Sec B, #25)

☐ Records Search ☐ _____ ☐ _____ ☐ _____

The additional procedures conducted or information generated shall occur during PA/ED.

☒ The proposed undertaking is considered to have the potential to affect historic properties. Further studies for 106 compliance are indicated in this PEAR. (Yes Sec B, #25)

Signature PQS: _____ Date: 1/25/10 Telephone #: 510 622-8765

CALTRANS DISTRICT BIOLOGY STAFF SIGNATURE

☐ Based on the scope of the project and the information generated for the PEAR, the project does not have the potential to affect biological resources.

☐ The following additional procedures or information is needed, to determine the potential for effect to biological resources:

☐ Records Search ☐ _____ ☐ _____ ☐ _____

☐ The proposed undertaking is considered to have the potential to affect biological resources. Further studies are indicated in this PEAR for the PA/ED phase.

Signature: _____ Date: 2/3/10 Telephone #: 6-5961

CALTRANS DISTRICT HAZARDOUS WASTE STAFF SIGNATURE

☐ Based on the information provided in the project description above, the project does not have the potential to be affected by hazardous wastes and materials.

☐ The following additional procedures or information is needed, to determine the potential for effect:

☐ Records Search ☐ _____ ☐ _____ ☐ _____

☑ The proposed undertaking is considered to have the potential to be affected by hazardous wastes and materials. Further studies are indicated in this PEAR for the PA/ED and PS&E phases.

Signature: _____ Date: 1/25/10 Telephone #: 510-286-5668

ATTACHMENT E

RIGHT OF WAY DATA SHEET

RIGHT OF WAY DATA SHEET FOR LOCAL PUBLIC AGENCIES

(Form #)

To: District Division Chief
Division of Right of Way and Land Surveys

Date: 12/08/2009

Co. CC Rte. 680
Expense Authorization 3A860K

Attention: District Branch Chief
R/W Local Programs

Subject: **RIGHT OF WAY DATA SHEET - LOCAL PUBLIC AGENCIES**

Project Description: This project proposes the reconstruction of the Norris Canyon Road overcrossing with high occupancy vehicle (HOV) on and off-ramps connecting directly to and from the HOV lanes along the median of Interstate 680 (I-680) in San Ramon, Contra Costa County. The Right of Way Data Sheet is prepared to support the Project Study Report (PSR) phase of the project.

Right of way necessary for the subject project will be the responsibility of Contra Costa Transportation Authority (CCTA).
The information in this data sheet was developed by CCTA and CH2M HILL Inc.

I. *Right of Way Engineering*

Will Right of Way Engineering be required for this project?

- No _____
- Yes _X_ (Submit a copy of the *Right of Way Engineering Surveys and Mapping Services checklist for Locally Funded Projects*. This checklist includes, but is not limited to, the following items.)

• Hard copy (base map)	N/A at this time
• Appraisal map	N/A at this time
• Acquisition Documents	N/A at this time
• Property Transfer Documents	N/A at this time
• R/W Record Map	N/A at this time
• Record of Survey	N/A at this time

II. *Engineering Surveys*

1. Is any surveying or photogrammetric mapping required?

   No _X_ Yes _____ (Complete the following.)

2. Datum Requirements

   Yes _X_ Project will adhere to the following criteria:
   - Horizontal - datum policy is NAD 83, CA-HPGN, EPOCH 1991.35 and English system of units and measures.
   - Vertical - datum policy is NAVD 88.
   - Units - English.

   No _____ Provide an explanation on additional page.

3. Will land survey monument perpetuation be scoped into the project, if required?

   Yes _X_

   No _____ Provide explanation on additional page.

III. ***Parcel Information (Land and Improvements)***

Are there any property rights required within the proposed project limits?

No _____ Yes __X__ (Complete the following.)

	Part Take	Full Take	Estimate $
A. Number of Vacant Land Parcels			$
B. Number of Single Family Residential Units			$
C. Number of Multifamily Residential Units			$
D. Number of Commercial/Industrial Parcels	1		$ 35,000
E. Number of Farm/Agricultural Parcels			$
F. Permanent and/or Temporary Easements	6		$ 126,000
G. Other Parcels (define in "Remarks" section)			$
Totals	7		$ 161,000

Provide a general description of the right of way and excess lands required (zoning, use, improvements, critical, or sensitive parcels, etc.).
Build Alternative requires one partial fee acquisition (commercial) and six temporary construction easements (TCE) from six Assessor Parcels (five commercial and one industrial). It is not anticipated that any commercial buildings would be impacted and therefore relocation is not required. TCEs are anticipated to construct retaining walls for the freeway widening.

IV. ***Dedications***

Are there any property rights which have been acquired, or anticipate will be acquired, through the "dedication" process for the Project?

No __X__ Yes _____ (Complete the following.)

Number of dedicated parcels ___N/A____

Have the dedication parcel(s) been accepted by the municipality involved? N/A

V. ***Excess Lands / Relinquishments***

Are there Caltrans property rights which may become excess lands or potential relinquishment areas?

No __X__ Yes _____ (Provide an explanation on additional page.)

R/W Data Sheet - Local Public Agencies
Page 3 of 5

VI. ***Relocation Information***

Are relocation displacements anticipated?

No __X__ Yes _____ (Complete the following.)

A. Number of Single Family Residential Units _____
Estimated RAP Payments $ _____

B. Number of Multifamily Residential Units _____
Estimated RAP Payments $ _____

C. Number of Business/Nonprofit _____
Estimated RAP Payments $ _____

D. Number of Farms _____
Estimated RAP Payments $ _____

E. Other (define in the "Remarks" section) _____
Estimated RAP Payments $ _____

Totals _____ $ _____

VII. ***Utility Relocation Information***

Do you anticipate any utility facilities or utility rights of way to be affected?

No _____ Yes __X__ (Complete the following.)

		Estimated Relocation Expense		
Facility	Owner	State/Project Sponsor Obligation	Local/City Obligation	Utility Owner Obligation
A. Electric	PG&E	$ 80,000	$	$ 80,000
B. Gas	PG&E	$ 80,000	$	$ 80,000
C. Telephone	AT&T	$ 60,000	$	$ 60,000
D. Cable TV	Comcast	$ 60,000	$	$ 60,000
E. Fiber Optic	San Ramon	$ 40,000	$ 40,000	$
F. Sewer	CCCSD	$ 200,000	$	$
Totals		$ 520,000 *	$ 40,000	$ 280,000
Number of facilities		6		

*This amount reflects the estimated total financial obligation by the State/Project Sponsor.

Any additional information concerning utility involvement on this project? No

VIII. ***Rail Information***

Are railroad facilities or railroad rights of way affected?

No __X__ Yes _____ (Complete the following.)

Describe railroad facilities or railroad rights of way affected.

Owner's Name	Transverse Crossing	Longitudinal Encroachment
A.		
B.		

Discuss types of agreements and rights required from the railroads. Are grade crossings that require services contracts, or grade separations that require construction and maintenance agreements involved?

IX. ***Clearance Information***

Are there improvements that require clearance?

No _____ Yes __X__ (Complete the following.)

A. Number of Structures to be Demolished 1 (Norris Canyon Road OC)

Estimated Cost of Demolition $ 200,000

X. ***Hazardous Materials/Waste***

Are there any site(s) and/or improvements(s) in the Project Limits that are known to contain *hazardous materials*? None __X__ Yes _____ (Explain in the "Remarks" section.)

Are there any site(s) and/or improvement(s) in the Project Limits that are suspected to contain *hazardous waste*? None _____ Yes __X__ (Explain in the "Remarks" section.)

XI. ***Project Scheduling***

	Proposed lead time	Completion date
* Preliminary Engineering, Surveys	6 (months)	01/2013
* R/W Engineering Submittals	3 (months)	06/2013
* R/W Appraisals/Acquisition	12 (months)	09/2013
Proposed Environmental Clearance		01/2013
Proposed R/W Certification		09/2014

XII. ***Proposed Funding***

	Local/Project Sponsor	State	Federal	Other
Acquisition	$161,000			
Utilities	$520,000			
Relocation Assistance Program				
R/W Support				
Cost (Eng. Appraisals, etc.)	$70,000			

XIII. ***Remarks***

Aerially deposited lead (ADL) is anticipated for undisturbed unpaved areas within the project.

Project Sponsor Consultant – CH2M HILL
Prepared by: Man-San Chio

Project Engineer

1/14/2010
Date

Project Sponsor – CCTA
Reviewed and Approved by: Hisham Noeimi

Hisham Noeimi

Engineering Manager

1/14/2010
Date

Caltrans
Reviewed and approved based on information provided to date:

Caltrans District Branch Chief
Local Programs
Division of Right of Way

1/28/2010
Date

ATTACHMENT F

STORM WATER DATA REPORT (SWDR) – SIGNATURE SHEET

Caltrans

Dist-County-Route: 04-CC–680

Post Mile (Kilometer Post) Limits:
04-CC–PM R2.9-R4.4

Project Type: HOV Direct Ramps

EA: 04-3A860K

RU:

Program Identification:

Phase: ☒PID ☐PA/ED ☐PS&E

Regional Water Quality Control Board(s): San Francisco Bay Regional Water Quality Control Board

Is the project required to consider incorporating Treatment BMPs? ☒Yes ☐No

If yes, can Treatment BMPs be incorporated into the project? ☒Yes ☐No

If No, a Technical Data Report must be submitted to the RWQCB at least 60 days prior to PS&E Submittal. List submittal date:

Total Disturbed Soil Area: 14.6 acres

Estimated Construction Start Date: July 2015 Construction Completion Date: July 2017

Notification of Construction (NOC) Date to be submitted: May 2015

Notification of ADL reuse (if Yes, provide date) ☒Yes Date: TBD ☐No

Separate Dewatering Permit (if Yes, permit number) ☐Yes Permit #: ☒No

This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the data upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E.

11/30/2009

Han-Bin Liang, P.E., Ph. D. *Registered Project Engineer* Date

I have reviewed the storm water quality design issues and find this report to be complete, current, and accurate:

1/20/2010

Yadollah Fathollahi (Caltrans) *Project Manager* Date

1/27/2010

Robert Braga, *Designated Maintenance Representative* Date

1/28/2010

David Yam, *Designated Landscape Architect Representative* Date

01/20/2010

Norman Gonsalves, *District/Regional SW Coordinator or Designee* Date

ATTACHMENT G

PROJECT RISK REGISTER

Project Risk Register

DIST- EA	04-3A860K	Project Name:	I-680/Norris Canyon Road Direct HOV Ramps PSR	Project Manager:	Deborah Dagang, CH2M HILL	Date Created:	Last Updated:
		Co - Rte - PM:	CC - 680 - PM R2.9-R4.4	Telephone:	510-587-7591	04/13/09	

ITEM	ID #	Status	Threat / Opport-unity	Category	Date Risk Identified	Risk Discription	Root Causes	Primary Objective	Overall Risk Rating	Cost/Time Impact Value	Risk Owner	Risk Trigger	Strategy	Response Actions w/ Pros & Cons	Adjusted Cost/Time Impact Value	WBS Item	Status Date and Review Comments
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
1	04-3A860K-01	Active	**Threat**	EXT	04/08/09	New legislative requirements for Assembly Bill 32 and Sentate Bill 375	Future requirements for AB 32 and SB 375	SCOPE	Probablility 3=Med (20-39%) **Low** Impact 2 =Low		CCTA	Environmental clearance during PA/ED	ACCEPT	Perform required additional environmental studies to better define scope			
2	04-3A860K-02	Active	**Threat**	EXT	04/08/09	Community opposition	Lack of support from community	SCOPE	Probablility 3=Med (20-39%) **Low** Impact 2 =Low		CCTA / City of San Ramon	Public meetings during PA/ED	MITIGATE	Obtain community inputs and incorporate into project scope if determined necessary			
3	04-3A860K-03	Active	**Threat**	DESIGN	04/08/09	Planned freeway closures that are longer than expected	Demolition of existing overcrossing	COST	Probablility 3=Med (20-39%) **Low** Impact 2 =Low		CALTRANS / CCTA	Begin PS&E	MITIGATE	Develop contingency plans and include in TMP			
4	04-3A860K-04	Active	**Threat**	EXT	04/08/09	Storm water mitigation requirements	Lack of available right of way for storm water mitigation	COST	Probablility 3=Med (20-39%) **Low** Impact 2 =Low		CCTA	Environmental clearance during PA/ED	MITIGATE	Develop thorough understsanding of latest storm water regulations and identify specific mitigation measures			
5	04-3A860K-05	Active	**Threat**	DESIGN	04/08/09	Unexpected geotechnical issues that may impact selection of wall types and embankment strategy	Unknown site conditions	SCOPE	Probablility 3=Med (20-39%) **Med** Impact 4 =Med		CCTA	Begin PS&E	MITIGATE	Perform site investigations and develop better understanding of site conditions			
6	04-3A860K-06	Active	**Threat**	EXT	04/08/09	Unexpected increase in construction cost	Volatility of cost of construction materials	COST	Probablility 3=Med (20-39%) **Med** Impact 4 =Med		CCTA	Bid opening	ACCEPT	Obtain quotes from contractors for key bid items during PS&E			
7	04-3A860K-07	Active	**Threat**	ORG	04/08/09	Schedule delay due to shortage of funding	Lack of available funding to meet schedule	TIME	Probablility 3=Med (20-39%) **High** Impact 8 =High		CCTA	Failure to secure additional funds	MITIGATE	Be proactive in identifying additional funding resources			

Project Risk Register

DIST- EA	04-3A860K	Project Name:	I-680/Norris Canyon Road Direct HOV Ramps PSR	Project Manager:	Deborah Dagang, CH2M HILL		Date Created:	Last Updated:
		Co - Rte - PM:	CC - 680 - PM R2.9-R4.4	Telephone:	510-587-7591		04/13/09	

ITEM	ID #	Status	Threat / Opport-unity	Category	Date Risk Identified	Risk Discription	Root Causes	Primary Objective	Overall Risk Rating	Cost/Time Impact Value	Risk Owner	Risk Trigger	Strategy	Response Actions w/ Pros & Cons	Adjusted Cost/Time Impact Value	WBS Item	Status Date and Review Comments
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
8	04-3A860K-08	Active	Threat	EXT	04/08/09	HOV hours of operation policies not adopted	Lack of consensus on HOV hours of operation	TIME	Probablility 3=Med (20-39%) Low Impact 2 =Low		CALTRANS / FHWA	Identification of preferred alternative in PA/ED	MITIGATE	Obtain multi-agency consensus			
9									Probablility Impact								
10									Probablility Impact								
11									Probablility Impact								
12									Probablility Impact								
13									Probablility Impact								
14									Probablility Impact								

ATTACHMENT H

DRAFT TRANSPORTATION CORRIDOR CONCEPT REPORT (TCCR)

TCCR CORRIDOR #7:
MTC 2001 RTP Corridor Name:

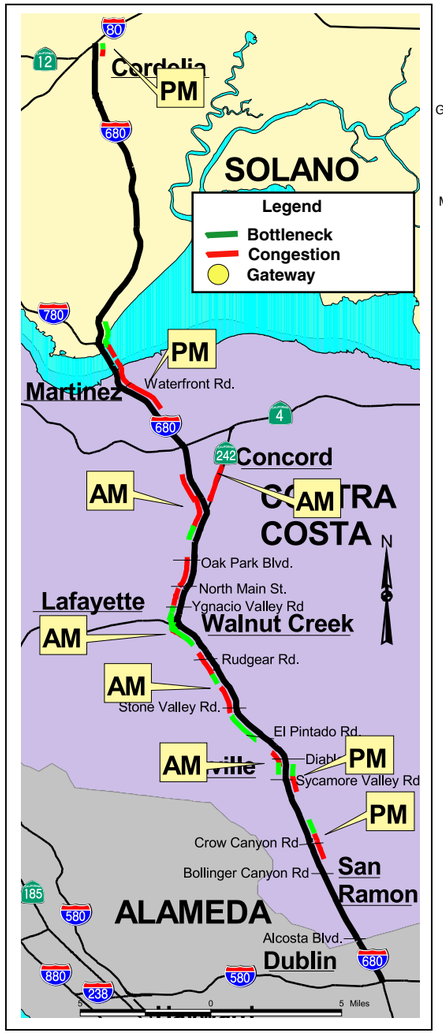
INTERSTATE 680 NORTH (Alameda I-580 to Solano I-80)

Diablo

PRELIMINARY DRAFT 3/15/02

DISTRICT 4
Transportation Planning/Traffic Operations

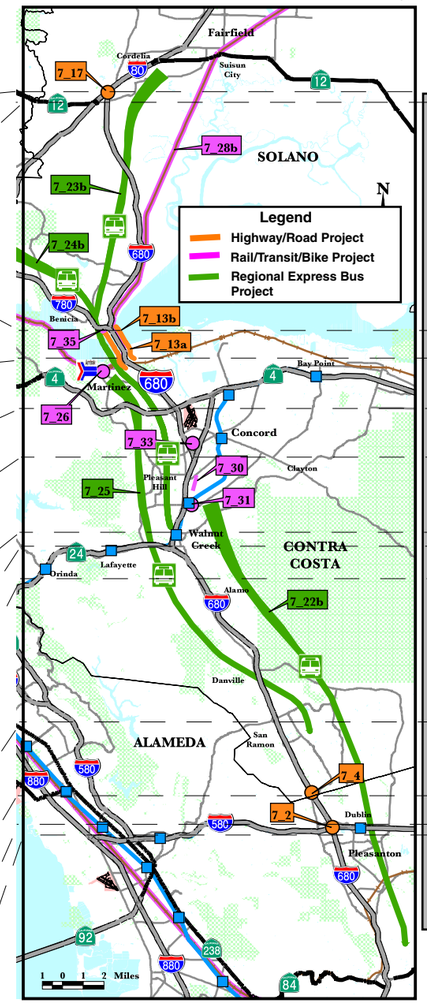
Existing Conditions (2000)



Location (Post Mile)	Segment	Existing Lanes (2000)	Vehicle Hours Delay (AM/PM) *
680/80 I/C			
13.1	L	3F	
Cordelia Rd./ Green Valley Rd.			120
12.8	K	4F	
N of Benicia-Martinez Bridge			
SOL 0.7 (CC 25.4)	J	6F	
Marina Vista Rd.			1130
24.5	I	6F	
680/4 I/C			
21.2	H	6F	3160
680/242 I/C			
R18.5	G	10F	1750
Ygnacio Valley Rd.			
14.9	F	6F	
680/24 I/C			
14.0	E	10F	200
Rudgear Rd.			
12.7	D	8F (2H)	1020
Crow Canyon Rd.			170
R4.2	C	8F (2H)	
ALA/CC Co. Line			40
CC 0.00			
ALA R21.8	B	8F	
N of 580/680 I/C			
R20.3	A	6F	
S of 580/680 I/C			
ALA R19.8			

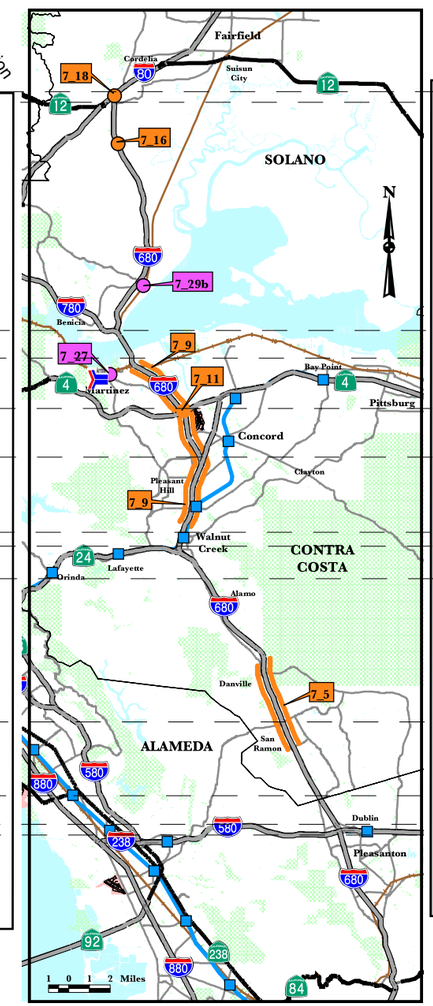
Major Programmed Projects (Committed Funding)

Programmed Configuration (2000-2010)



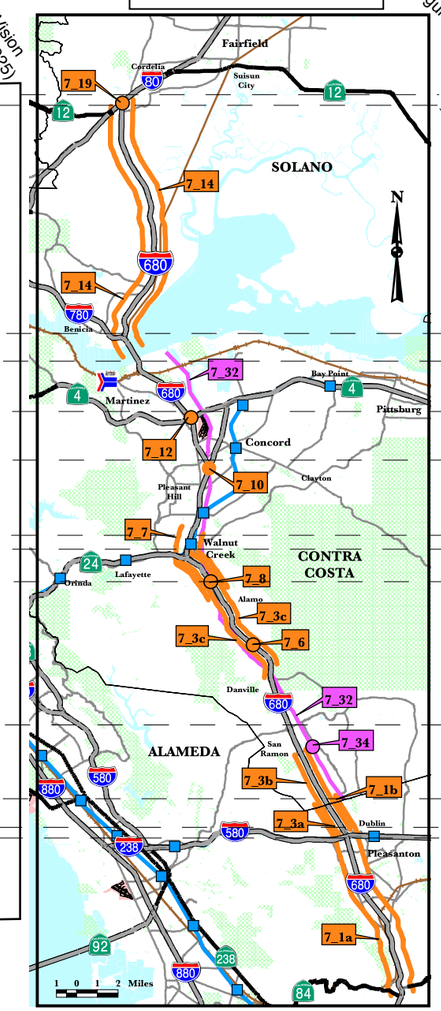
Major Planned Projects (RTP Track 1, Unprogrammed)

Planned/Regional Vision Configuration (2010-2025)



Major Planned Concept Projects (Blueprint, CTP, CMP, TCCR-TOPS, other)

Highway Concept Configuration (2025)



Segment	% ADT Growth Forecast (2000-2020) **
4F	
L	40%
6F (2H)	
K	50%
8F (2H)	
J	40%
8F (2H)	
I	30%
8F (2H)	
H	30%
12F (2H)	
G	30%
8F (2H)	
F	30%
12F (2H)	
E	40%
8F (2H)	
D	40%
8F (2H)	
C	40%
10F (2H)	
B	30%
8F (2H)	
A	40%

Sources of Operating Condition Information:
* Caltrans Highway Congestion Report (1998)
** MTC BAYCAST 2000. ADT Growth % is 2000 to 2020.

Sources of Plans and Program Document Information:
▯ 2002 STIP, SHOPP, 2001 TIP, MTC RTP (2001) Committed
▯▯ MTC RTP (2001) Track 1 (unprogrammed)
▯▯▯ MTC Blueprint (2000), County CMPs, Traffic Operational Strategies (TOPS)

MAP LEGEND
101 U.S. Highway
680 Interstate Highway
4 California State Highway

Project Code Legend
Proj. # / A: Project Description **Example: 7-2 / A: Alcosta Bl. I/C**
7-2: Project Number
A: Source Document Code (highest planning document; see legend, right)

Lane	Classification
F	Freeway
E	Expressway
C	Conventional
H	High Occupancy
R	HOV - Reversible
TCL	Truck Climbing Lane
M#	# of Metering Locations

Source Document Code

A: TIP	F: 2000 Blueprint
B: STIP	G: County CTP/CMP
C: SHOPP	I: TCCR-TOPS
C10: 10-yr SHOPP Plan	
D: Local	J: Construction
E: 2001 RTP	K: Permits
	T: TCRP

Major Programmed Projects (Committed Funding) ▯
Map Number/Source Document Code/Project Name

7-2 / E: I-580/I-680 I/C (SB 680 to EB 580)
7-4 / A: I-680/Alcosta Blvd. I/C improvements
7-13 / A: New Benicia-Martinez Bridge: construct new bridge span east of existing span (4 mixed-flow lanes, 1 slow-vehicle lane and bicycle/pedestrian path); includes new toll plaza and upgrades to I-680/I-780 I/C and I-680/Marina Vista I/C.
7-17 / A: I-80/I-680/Route 12 I/C improvements; includes connectors and auxiliary lanes between Green Valley Road and Cordelia truck weigh stations (Phase1)
7-20 / A: I-680 "Smart Corridor" TOS elements; Benicia Bridge to ALA/CC Line (not shown on map)
7-22 / E: Sunol Grade Express Bus along I-680 to Pleasant Hill BART
7-23 / E: Regional Express Bus Program: I-80 and I-680/Solano County to Walnut Creek BART Station
7-24 / E: Regional Express Bus Program: I-680 and I-780/Solano County to Walnut Creek BART Station
7-25 / E: Regional Express Bus Program: I-680/Martinez to San Ramon.
7-26 / B: Martinez Intermodal Terminal Facility (Phases 1 and 2); includes construction of a new passenger rail station, bus facilities and parking
7-28 / E: Capitol Corridor intercity rail service (9 round trips daily between Oakland and Sacramento, and 7 round trips daily between San Jose and Oakland).
7-30 / A: Iron Horse Trail Gap Closure; Mayhew to Monument
7-31 / A: Iron Horse Trail Overcrossing at Treat Blvd.
7-33 / A: Iron Horse Trail Undercrossing at Diamond Blvd.
7-35 / A: Class II Bike Lane along Park Rd. from Adams St. to Oak Rd.

Major Planned Projects (RTP Track 1) ▯▯
Map Number/Source Document Code/Project Name

7-5 / A: I-680 Auxillary Lanes - Diablo Road to Bollinger Canyon Road
7-9 / A: I-680 HOV lanes SB from Marina Vista I/C to North Main Street and NB from SR 242 to the Marina Vista interchange
7-11 / E: I-680/Route 4 interchange freeway-to-freeway direct connectors (Phases 1 and 2): EB Route 4 to SB I-680, and NB I-680 to WB Route 4.
7-16 / A: Construct Park & Ride at I-680/Gold Hill Rd.
7-18 / E: I-80/I-680/Route 12 I/C improvements (phase 2).
7-27 / E: Martinez Intermodal Terminal Facility (Phase 3 initial segment); 200 interim parking spaces (includes site acquisition, demolition, and construction).
7-29 / B: Construct rail stations and track improvements for Capitol Corridor intercity rail service; potential station sites are Fairfield/Vacaville, Dixon and Benicia.

Major Planned, Concept Projects (Blueprint/CTP/CMP/TCCR-TOPS/Other) ▯▯▯
Map Number/Source Document Code/Project Name

7-1 / G: HOV lanes on I-680: Alcosta Blvd. to SR-84 in Alameda County
7-3 / E: Selected additional I-680 auxiliary lanes south of I-680/Route 24 I/C
7-6 / G: I-680/El Pintado Road I/C improvements
7-7 / I: I-680 HOV lanes (NB/SB) from north of Livorna Rd. to North Main Street
7-8 / E: Rudgear Rd. Park & Ride
7-10 / F: Freeway-To-Freeway HOV Connector SB 242 - SB 680
7-12 / E: Increase I-680/Route 4 I/C capacity and HOV-to-HOV connectors between SR-4 and I-680 WB SR-4 to SB I-680).
7-14 / E: Widen I-680 to 6 lanes Benicia Bridge to I-80/I-680 I/C
7-15 / G: Construct I-680/Industrial Way Park & Ride
7-19 / F: I-80/I-680/Route 12 I/C (Phase 3): widen I-80 by 2 lanes in each direction (1 mixed flow and 1 HOV lane) between I-680 and SR-12 (west).
7-21 / I: I-680 TOS/TMS elements; Solano County (not shown on map)
7-32 / G: Iron Horse Trail; Make Class 1 facility from Bencia to ALA/CC line
7-34 / G: Iron Horse Trail Overcrossing at Bollinger Canyon Rd.

ATTACHMENT I

TRAFFIC OPERATIONS ANALYSIS REPORT - COVER SHEET

I-680/Norris Canyon Road HOV Ramps PSR

Traffic Operations Analysis Report
FINAL

Prepared for:

Contra Costa Transportation Authority (CCTA)

By

DKS Associates
1000 Broadway
Suite 450
Oakland, CA 94607-4039

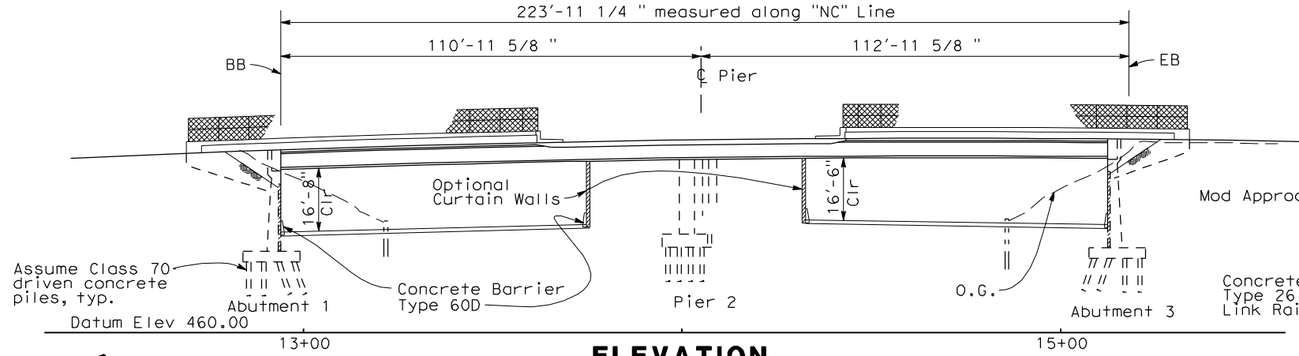
December 8, 2009

ATTACHMENT J

STRUCTURE ADVANCE PLANNING STUDY

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT
04	CC	680	



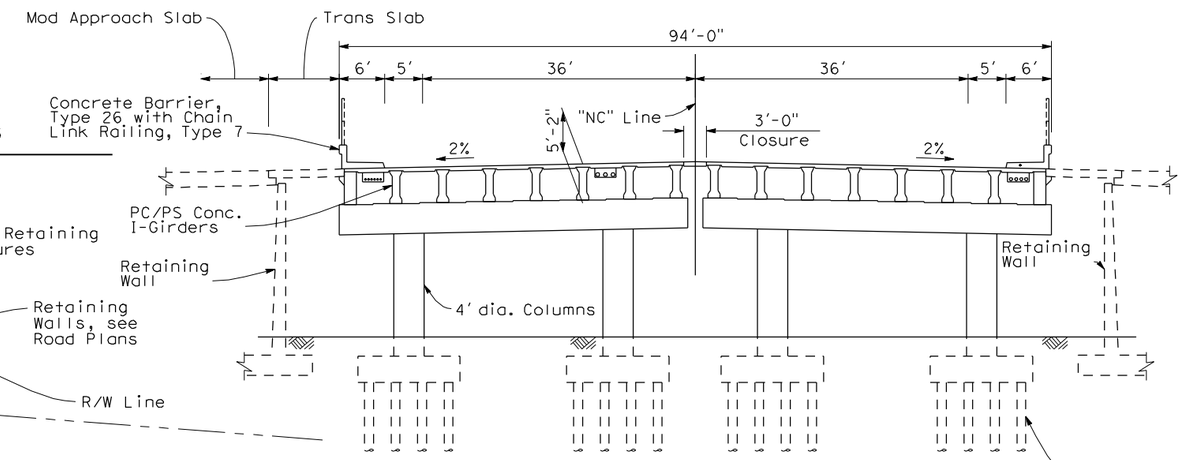
ELEVATION

1" = 20'

LEGEND

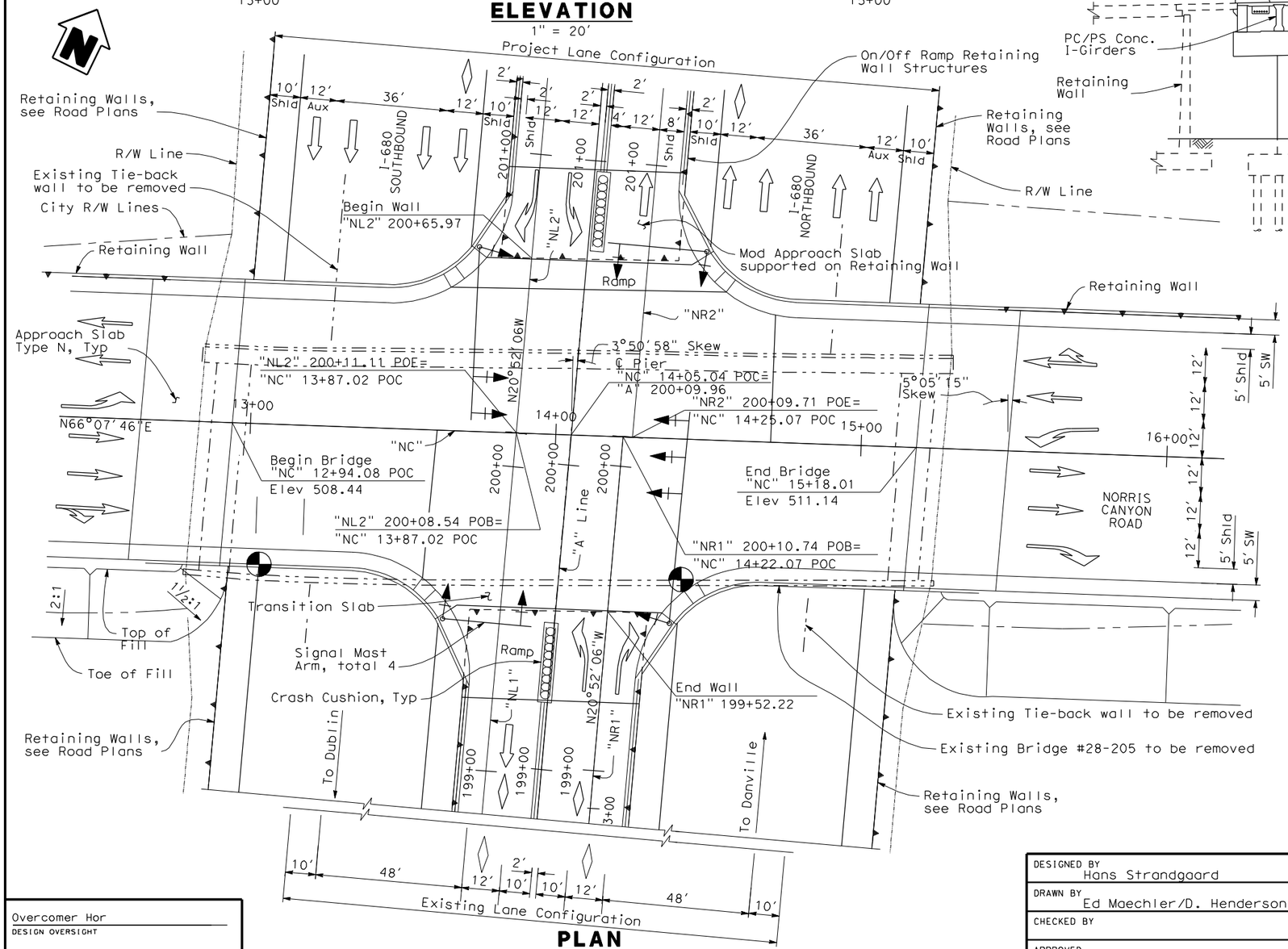
Indicates point of minimum vertical clearance.

Indicates traffic signal head.



TYPICAL SECTON

1" = 10'



PLAN

1" = 20'

Vehicular Traffic

1. ___ New alignment. No traffic at the site.
2. ___ Traffic will be detoured away from the site.
3. ___ Traffic will be carried on the structure. Stage construction will/will not be required.
4. X Traffic will pass under the structure on NB & SB 680.
   - A. X No falsework allowed over traffic.
   - B. ___ Falsework opening(s) required:

	Temporary Vertical Clearance	Width of Traffic Opening
___ Bnd	___	___
___ Bnd	___	___
___ Two-way	___	___

   - C. ___ Temporary traffic lane reduction needed for footing excavation.

DATE OF ESTIMATE	04-22-09
BRIDGE REMOVAL	= $200,000
STRUCTURE DEPTH	= 5'-2"
LENGTH	= 224'
WIDTH	= 94' & Varies
AREA	= 23,250 SQ.FT.
COST/SQ FT INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	= $244
TOTAL COST	= $5,867,000

PRELIMINARY

DESIGNED BY Hans Strandgaard	DATE 03/26/09	Hans Strandgaard PROJECT ENGINEER	PLANNING STUDY
DRAWN BY Ed Maechler/D. Henderson	DATE 04/22/09		NORRIS CANYON ROAD OC (REPLACE)
CHECKED BY	DATE		BRIDGE NO. 28-0205 CU X
APPROVED	DATE		SCALE: EA 3A860K

Overcomer Hor
DESIGN OVERSIGHT

SIGN OFF DATE

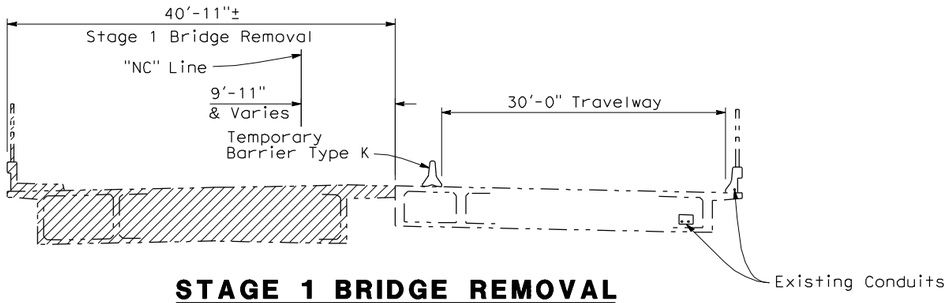
ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 2/25/05)

FILE => $REQUEST

USERNAME => $USER DATE PLOTTED => $DATE TIME PLOTTED => $TIME

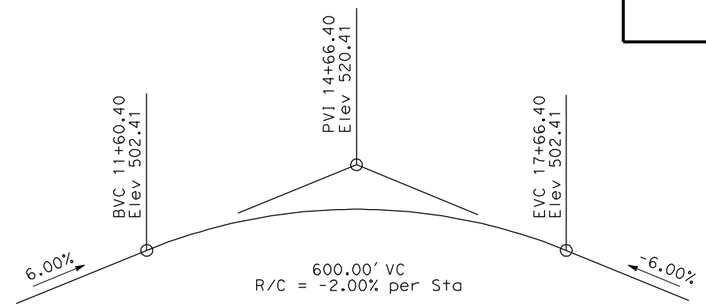
PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT
04	CC	680	



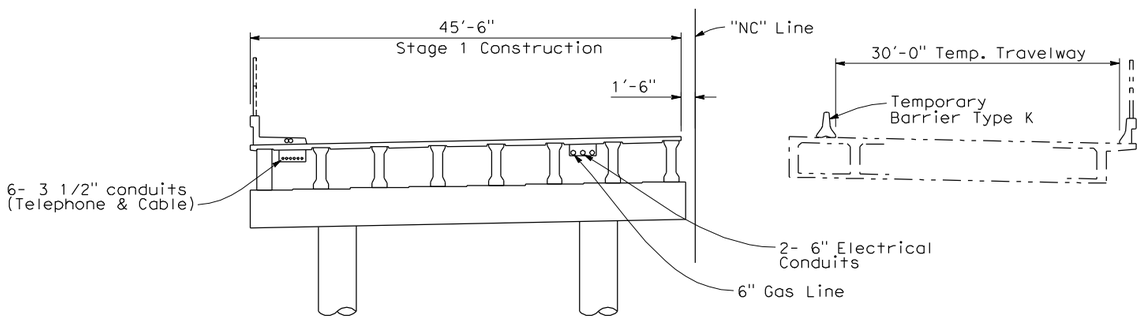
STAGE 1 BRIDGE REMOVAL

1/8" = 1'-0"



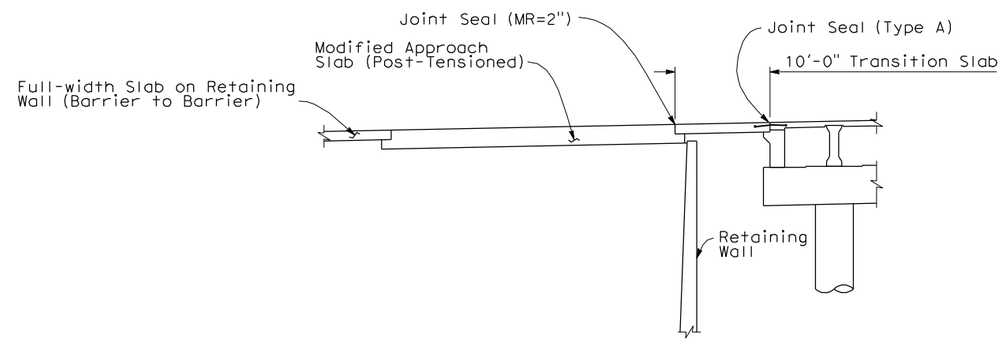
PROFILE GRADE

No Scale



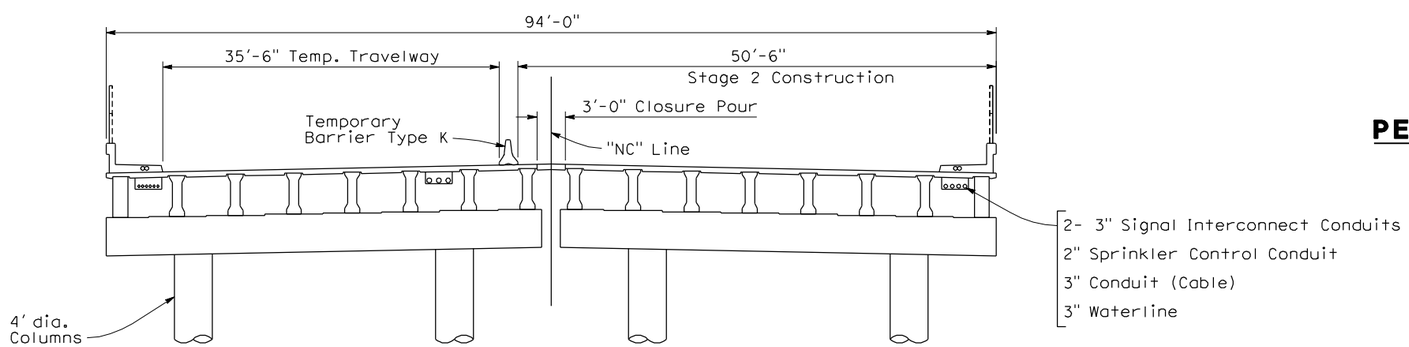
STAGE 1 CONSTRUCTION

1/8" = 1'-0"



PERPENDICULAR SECTION AT RAMP

1/8" = 1'-0"



STAGE 2 CONSTRUCTION

1/8" = 1'-0"

PRELIMINARY

DESIGNED BY Hans Strandgaard	DATE 03/26/09	Hans Strandgaard PROJECT ENGINEER	STAGE CONSTRUCTION
DRAWN BY Ed Maechler/D. Henderson	DATE 04/22/09		NORRIS CANYON ROAD OC (REPLACE)
CHECKED BY	DATE		BRIDGE NO. 28-0205 / CU X
APPROVED	DATE		SCALE: / EA 3A860K

DESIGN OVERSIGHT

SIGN OFF DATE

TIME PLOTTED => $TIME

DATE PLOTTED => $DATE

USERNAME => $USER

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 2/25/05)

FILE => $REQUEST

ATTACHMENT K

TRANSPORTATION MANAGEMENT PLAN (TMP) DATA SHEET AND REQUEST FOR TMP DATA SHEET

TRANSPORTATION MANAGEMENT PLAN DATA SHEET
(Preliminary TMP Elements and Costs)

Co/Rte/PM 04-CC-680-PM R2.9/R4.4 EA 3A860K Project Engineer Man-San Chio

Project Limit Bet. Bollinger Cyn Rd OC & Fostoria Way OC in Contra Costa Co

Project Description Construct HOV Direct Ramps at Norris Cyn Rd OC on I-680 in San Ramon

1) Public Information

☒	a. Brochures and Mailers	$10,000
☒	b. Press Release	$7,500
☒	c. Paid Advertising	$35,000
☐	d. Public Information Center/Kiosk	
☒	e. Public Meeting/Speakers Bureau	$20,000
☒	f. Telephone Hotline	$20,000
☒	g. Internet, E-mail	$15,000
☒	h. Notification to impacted groups (i.e. bicycle users, pedestrians with disabilities, others)	$25,000
☐	i. Others _____	
	Subtotal	**$132,500**

2) Traveler Information Strategies

☐	a. Changeable Message Signs (Fixed)	
☒	b. Changeable Message Signs (Portable)	$180,000
☒	c. Ground Mounted Signs	$5,000
☐	d. Highway Advisory Radio	
☐	e. Caltrans Highway Information Network (CHIN)	
☒	f. Detour maps (i.e. bicycle, vehicle, pedestrian...etc)	$2,500
☒	g. Revised Transit Schedules/maps	$2,500
☒	h. Bicycle community information	$1,000
☐	i. Others _____	
	Subtotal	**$191,000**

3) Incident Management

☒	a. Construction Zone Enhanced Enforcement Program (COZEEP) (300 nights @ $2,000/night)	$600,000
☒	b. Freeway Service Patrol	$200,000
☐	c. Traffic Management Team	
☐	d. Helicopter Surveillance	$
☐	e. Traffic Surveillance Stations (Loop Detector and CCTV)	$
☐	f. Others _____	$
	Subtotal	**$800,000**

TMP Data Sheet (cont.)

4) Construction Strategies

☒	a. Lane Closure Chart	$0 (cost to be included in PS&E)
☐	b. Reversible Lanes	
☐	c. Total Facility Closure	
☐	d. Contra Flow	
☐	e. Truck Traffic Restrictions	$
☒	f. Reduced Speed Zone	$15,000
☒	g. Connector and Ramp Closures	$100,000
☐	h. Incentive and Disincentive	$
☐	i. Moveable Barrier	$
☐	j. Others _____	
	Subtotal	**$115,000**

5) Demand Management

☐	a. HOV Lanes/Ramps (New or Convert)	$
☐	b. Park and Ride Lots	$
☐	c. Rideshare Incentives	$
☐	d. Variable Work Hours	$
☐	e. Telecommute	$
☐	f. Ramp Metering (Temporary Installation)	$
☐	g. Ramp Metering (Modify Existing)	$
☐	h. Others _____	$

6) Alternate Route Strategies

☐	a. Add Capacity to Freeway Connector	$
☐	b. Street Improvement (widening, traffic signal... etc)	$
☐	c. Traffic Control Officers	$
☐	d. Parking Restrictions	
☐	e. Others _____	$

7) Other Strategies

☐	a. Application of New Technology	$
☐	e. Others _____	$

TOTAL ESTIMATED COST OF TMP ELEMENTS = $1,238,500

PREPARED BY Tom Krakow, DKS Associates DATE 10/26/2009
Amalio Angeles, Caltrans

APPROVAL RECOMMENDED BY A. Shah DATE 10/26/2009

State of California **Business, Transportation and Housing Agency**

Memorandum

To: Project File Date: 11/24/2009

From: CH2M HILL

Subject: REQUEST FOR TRANSPORTATION MANAGEMENT PLAN DATA SHEET

Project Data

PROJECT MANAGER: Yadollah Fathollahi/Caltrans Deborah Dagang/CH2M HILL	510-622-8868 510-587-7591
PROJECT ENGINEER: Amalio Angeles/Caltrans Man-San Chio/CH2M HILL	510-622-1668 510-587-7588
DIST-EA: 04-3A860K PROGRAM: Locally Funded Project	
PROJECT COMMON NAME: I-680/Norris Canyon Road HOV Direct Ramps Project	
CO-RTE-PM: CC-680-PM R2.9/R4.4	
LEGAL DESCRIPTION: Construct Express Bus/HOV Direct Ramps at Norris Canyon Road OC on I-680 in San Ramon	
DETAILED WORK DESCRIPTION: The build alternative proposes to construct on and off ramps connecting to the I-680 median HOV lanes, in both NB and SB directions, at a replaced Norris Canyon OC. To accommodate the proposed Express Bus/HOV facility at Norris Canyon Road, the mainline lanes would undergo a transition that begins at Bollinger Canyon Road and ends at Fostoria Way OC. This transition would consist of restriping and roadway widening. The Express Bus/HOV ramps would be constructed on an embankment with retaining walls.	
CONSTRUCTION COST ESTIMATE: $64.5 M	
PROJECT PHASE: PID ☒ PR ☐ PAED ☐ PS&E ☐ %	

Traffic Impact Description

A) The Project includes the following:
(Check applicable type of facility closures)

- ☒ Highway or freeway lanes
- ☒ Highway or freeway shoulders
- ☐ Freeway connectors
- ☒ Freeway off-ramps
- ☒ Freeway on-ramps
- ☒ Local streets

B) Major operations requiring traffic control and working days for each

Operation	# of working days
☒ Clearing and grubbing	15
☒ Existing feature removal	15
☒ Excavation of embankments construction	15
☒ Structural section construction	60
☒ Drainage feature construction	15
☒ Structures construction	120
☒ MBGR/Barrier construction	10
☒ Striping	10
☒ Electrical component construction	10
☒ Others: Retaining wall construction	30
Total days requiring traffic control	300

C) Project staging description and # of working days required per stage:

Stage Description	# of working days per stage
1. Construct outside widening; remove northern half of existing bridge; construct north half of new OC	200
2. Remove southern half of existing bridge; construct south half of new OC	200
3. Construct median HOV ramps and embankment	200
Total construction days	600

D) Have you considered any construction strategies that can restore existing number of lanes?

☐ Temporary Roadway Widening Structure Involvement?
Yes ____ No_____if "yes", notify Project Manager
☐ Lane Restriping (Temporary narrow lane widths)
☐ Roadway Realignment (Detour around work area)
☐ Median and/or Right Shoulder Utilization
☐ Use of HOV lane as a Temporary Mixed Flow Lane
☒ Staging alternatives (Explain below): Construction of proposed Norris Canyon OC is staged in order to provide one lane of traffic in each direction on Norris Canyon Road.

Attachments

☐ Title Sheet
☒ Typical Cross Section (See PSR Attachment B)
☒ Layouts (See PSR Attachment B)
☐ Staging or Traffic Handling Plan
☐ Damage Calculations
☐ RUC Calculations
☒ Project Location Map (See PSR Attachment A)
☐ Project Fact Sheet

Man-San Chio (CH2M HILL)/
Amalio Angeles (Caltrans)
Project Design Engineer

510-587-7588/
510-622-1668
Contact Phone Number

Robert Blanco (Caltrans)
Senior Engineer

ATTACHMENT L

PAVEMENT STRATEGY CHECKLIST

PAVEMENT STRATEGY CHECKLIST (Rev. 9/24/09)

Date: February 11, 2010

Project description and project elements:
The build alternative proposes to construct on- and off-ramps connecting to the I-680 median HOV lanes, in both northbound and southbound directions, at a replaced Norris Canyon Road Overcrossing. To accommodate the proposed express bus/HOV facility at Norris Canyon Road, the mainline lanes would undergo a transition that begins at Bollinger Canyon Road and ends at Fostoria Way overcrossing. This transition would consist of restriping and pavement widening. The on- and off-ramps would be constructed on an embankment retained by retaining walls.

EA: 04-3A860K

Project Manager: Yadollah Fathollahi

Co/Rte: CC 680

Office: Project Management

Project Engr: Man-San Chio Initial MSC

Program: N/A

Design Sr: Robert Blanco Initial RB

PM Limits: R2.9/R4.4

Materials Engineer (8th floor) : TINJ MISMRA

Signature

This project is at the following phase (please check one):

☒ PID (PSSR, etc.) ☐ PR ☐ PS&E ☐ OTHER

Describe existing structural section (e.g., shoulder, traveled way). Show limits if different sections are within the project:

Left shoulder and No.1 lane: 0.51' AC / 0.75' CTB / 0.66' LTS
No.2, No. 3 & No. 4 Lane: 0.75 PCC / 0.33' CTB / 0.92' AS
Auxiliary lane and right shoulder: 1.00' PCC / 0.50' LCB / 0.70' LTS

What pavement types/structural sections does Consultant propose for each segment (shoulders and traveled way)?

A. The pavement structural section proposed with the project consists of 1.00' PCC / 0.50' LCB / 0.70' LTS.

Pavement is involved in:

☒ Entire project OR ☐ Part of the project

Assumptions (Is future widening in Regional Transportation Plan? Yes or no?) No: Please provide information for all of the following items that apply to this project.

	Yes	No	Question
1.	☐	☐	Are you implementing an innovative strategy (e.g., cold foam Hot-Mix Asphalt (HMA)), pre-cast concrete pavement, continuously reinforced pavement, etc)? If so, which are you implementing and why? If not, why not? Specific strategy to be determined in PS&E
2.	☐	☒	Has Rapid Rehab strategy been considered (e.g., weekend closures and lane replacements)? Explain: Specific strategy to be determined in PS&E
3.	☒	☐	Are you using Rubberized Hot-Mix Asphalt (RHMA) in this project? If not, justify:
4.	☐	☒	Was Life Cycle Analysis performed? The LCCA is deferred to the PAED phase as per draft Pavement Policy Bulletin (dated Feb. 3, 2010). The project is programmed for construction using the pavement and traffic control cost for the alternative with the higher initial costs.
5.	☐	☒	Does existing pavement have a settlement problem? Explain: Based on final design drawings available (EA 228554) and findings in the Preliminary Materials Report, there are no indications of pavement settlement within the project limits.
6.	☒	☐	a) Is this project (or part of project) maintaining the grade profile? b) If not, explain how the profile change affects the pavement strategy choice (cut v. fill):
7.	☒	☐	Will there be a new barrier?
8.	☒	☐	Is the proposed structural section on cut or fill or both? Provide limits of both, if applicable.
9.	☐	☒	Are highly expansive basement soils present? See the as-built LOTBs in the Preliminary Materials Report for details.
10.	☐ ☐	☒ ☒	Are as-builts (including structural section information regarding edge drains, under drains, lime treatment, permeable blanket, etc.) available? If no, did you check map files and online? No Final design drawings (EA 228554) were available for our use. If yes, existing structural section was based on (check one): ☐ as-built ☐ actual boring

	Yes	No	Question
11.	☐	☒	Do the project limits have problems with groundwater (e.g., high water table, flow requirements, etc.)? If yes, explain: See Preliminary Foundations Report
12.	☒	☐	Has the availability of pavement materials (i.e., long haul distances from plants) been considered? If yes, how does material availability affect pavement type selection? There are several commercial sources of asphalt, concrete, and aggregate products in the vicinity of the project site.
13.	☒ ☐	☐ ☐	Will the existing pavement be rehabilitated? What are the age and condition of the existing adjacent lanes? Explain: The existing pavement within the project area is scheduled for rehabilitation in late 2009 by Caltrans.
14.	☐	☐	What is the type of pavement/structural section (corridor pavement type/structural section continuity) on upstream/downstream roadway? Explain if several: The existing roadway upstream or downstream of the project area has the same concrete pavement structural sections as that within the project area.
15.	☐ ☐	☒ ☒	Is TMP data (lane closure charts) available and was it considered? Will there be nighttime paving? If so, provide lane closure hours:_____.
16.	☐	☒	Was field Maintenance input considered?
17.	☐	☒	Were climate conditions (extreme temperature, rainfall, etc.) considered? If so, which ones do you anticipate affecting the pavement job?
18.			Which stage construction requirements (matching adjacent sections, temporary paving, etc.) were considered? Project proposes to match adjacent sections as indicated on Page 1 of the checklist
19.	☐	☒	Is this a large-scale project? Explain all quantity take-off: Only pavement widening on I-680 is proposed with this project.
20.	☐	☒	Is there Open-Graded Hot-Mix Asphalt (OGHMA) on the existing pavement?

	Yes	No	Question
21.	☒	☐	Was environmental impact considered? Explain: Environmental issues were addressed in PEAR.
22.			What is the proposed pavement design life? 40 years.
23.			What is the final lane line configuration? 1 HOV lane + 3 mixed flow lane + 1 auxiliary lane.
24.	☐	☒	Are there vertical clearance issues? If yes, explain:
25.			What is the traffic index? Since a long-life pavement structural section that matches a recently completed pavement project was assumed, a TI calculation has not been performed. According to Table 623.1G of the HDM page 620-14, the assumed pavement design corresponds roughly to a TI of 14.5 to 15. A new Traffic Index will be computed in the next phase of the project as data become available..
26.	☐	☒	Are there existing retrofit edge drains?
27.	☒	☐	Will shoulders be used as detours?
28.	☒ ☒	☐ ☐	Is there settlement at bridge approaches? Are bridge approach slabs being replaced? Does such replacement include shoulders? Consulted with structures maintenance representative on _____.
29.	☒	☐	Is there a minimum standard (2% or 1.5%) cross-slope? If not standard, provide date of design exception approval:_____
30.			Provide the pavement condition report. Not available at this phase of the project
31	☐	☒	Other factors? Explain:

ATTACHMENT M

CITY OF SAN RAMON LETTER OF SUPPORT

CITY OF SAN RAMON

2222 CAMINO RAMON
SAN RAMON, CALIFORNIA 94583
PHONE: (925) 973-2500
WEB SITE: www.sanramon.ca.gov

January 15, 2010

Mr. Hisham Noemi
Contra Costa Transportation Authoeity
3478 Buskirk Avenue, Suite 100
Pleasant Hill, CA 94523

RE: I-680 HOV lanes at Norris Canyon Road

Dear Mr. Noemi,

The City of San Ramon supports the project to provide direct ramps to/from the I-680 HOV lanes at Norris Canyon Road. City staff has worked closely with Contra Costa Transportation Authority (CCTA) and their consultants in the development of the Project Study Report (PSR), and have reviewed the key deliverables.

In particular, the City's transportation planning and traffic engineering staff have provided input and review for the traffic analysis included in the Traffic Operations Analysis Report (TOAR) prepared for this PSR. This review considered differences in service level analysis methodologies that may result in inconsistencies with other studies of the same intersections. With the location of the new intersection for the direct ramps with respect to Norris Canyon Road, we understand there may be negative traffic impacts to nearby intersections. We have reviewed these impacts, including proposed geometry and conceptual signal phasing, and concur with the report's conclusions.

If you should have any questions or need additional information, feel free to contact Lisa Bobadilla, Transportation Division Manager, at (925) 973-2651 or Mike Talley, Senior Traffic Engineer, at (925) 973-2654. We thank you for your support of the project and look forward to embarking on the next phase of the project.

Best Regards,

Phil Wong
Planning/Community Development Director