

# Appendix B Design Options

---

This appendix supplements the information provided in Section 1.5 and contains representative exhibits of the design options that were studied and withdrawn. Tables comparing withdrawn design options with the Build Alternative are also provided, and the reasons design options were withdrawn are highlighted.

The Build Alternative presented in the DED proposed to relocate and realign the SR 84/Vallecitos Road intersection 450 feet to the north. As a result of comments received during the public review period, the other SR 84/Vallecitos Road intersection design options were reconsidered to determine whether farmland impacts could be avoided. It was subsequently determined that Option A (with the intersection to remain in its current location) could be skewed to reduce the potential for high-sided vehicles to overturn. Additional modifications to Option A were included to further improve safety and enhance traffic operations, including elimination of the left-turn movement from SR 84 to Vallecitos Road. As a result, the Build Alternative was changed to include the revised Option A.

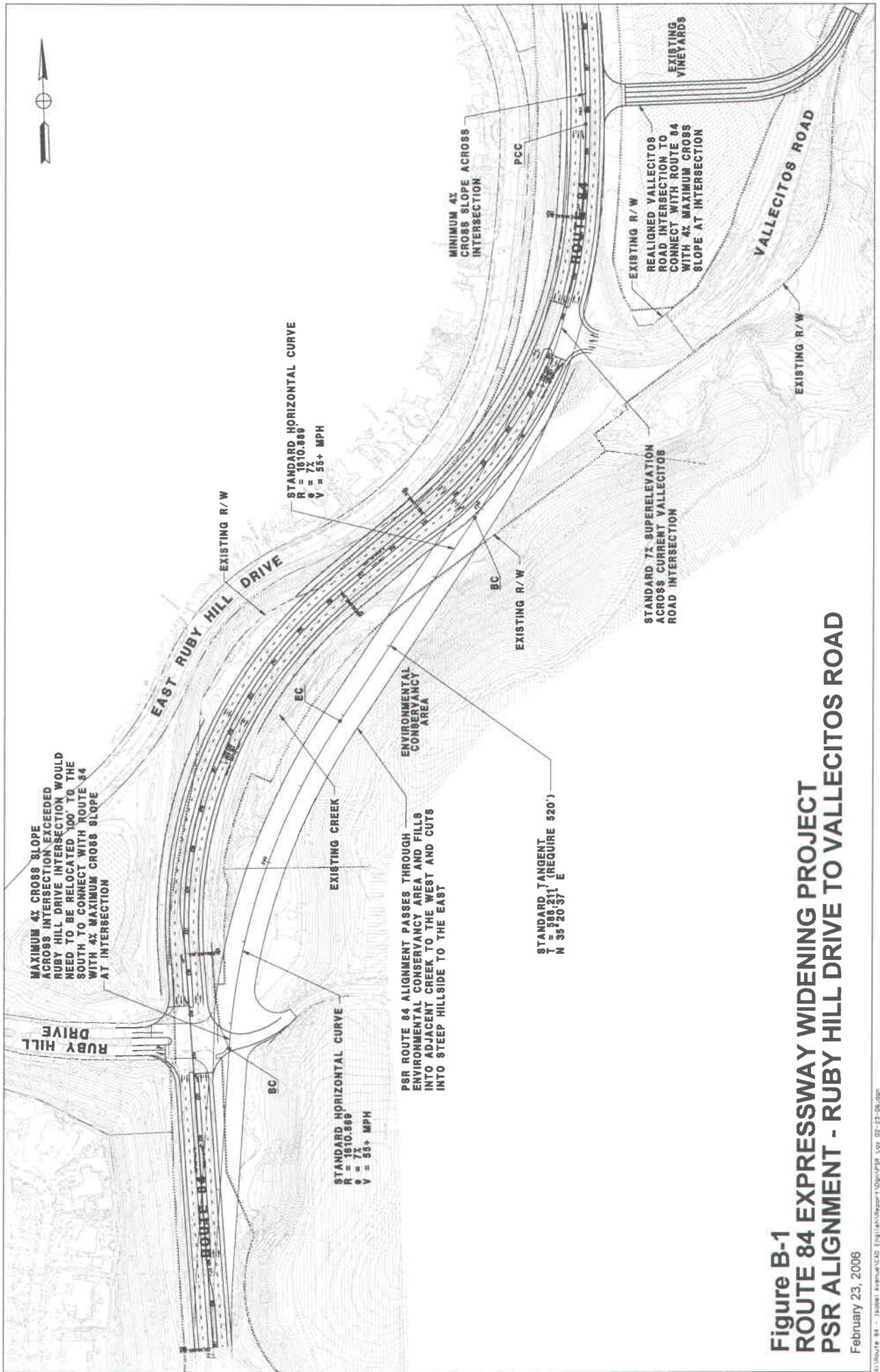
## ***List of Figures***

Figure B-1	SR 84 Alignment (PSR/PDS) – Ruby Hill Drive to Vallecitos Road
Figure B-2	SR 84/Vallecitos Road Intersection (Option A)
Figure B-3	SR 84/Vallecitos Road Intersection (Option B)
Figure B-3B	SR 84/Vallecitos Road Intersection (Option C)
Figure B-4	SR 84/Vallecitos Road Intersection (Option E)
Figure B-5	Stanley – Full Interchange

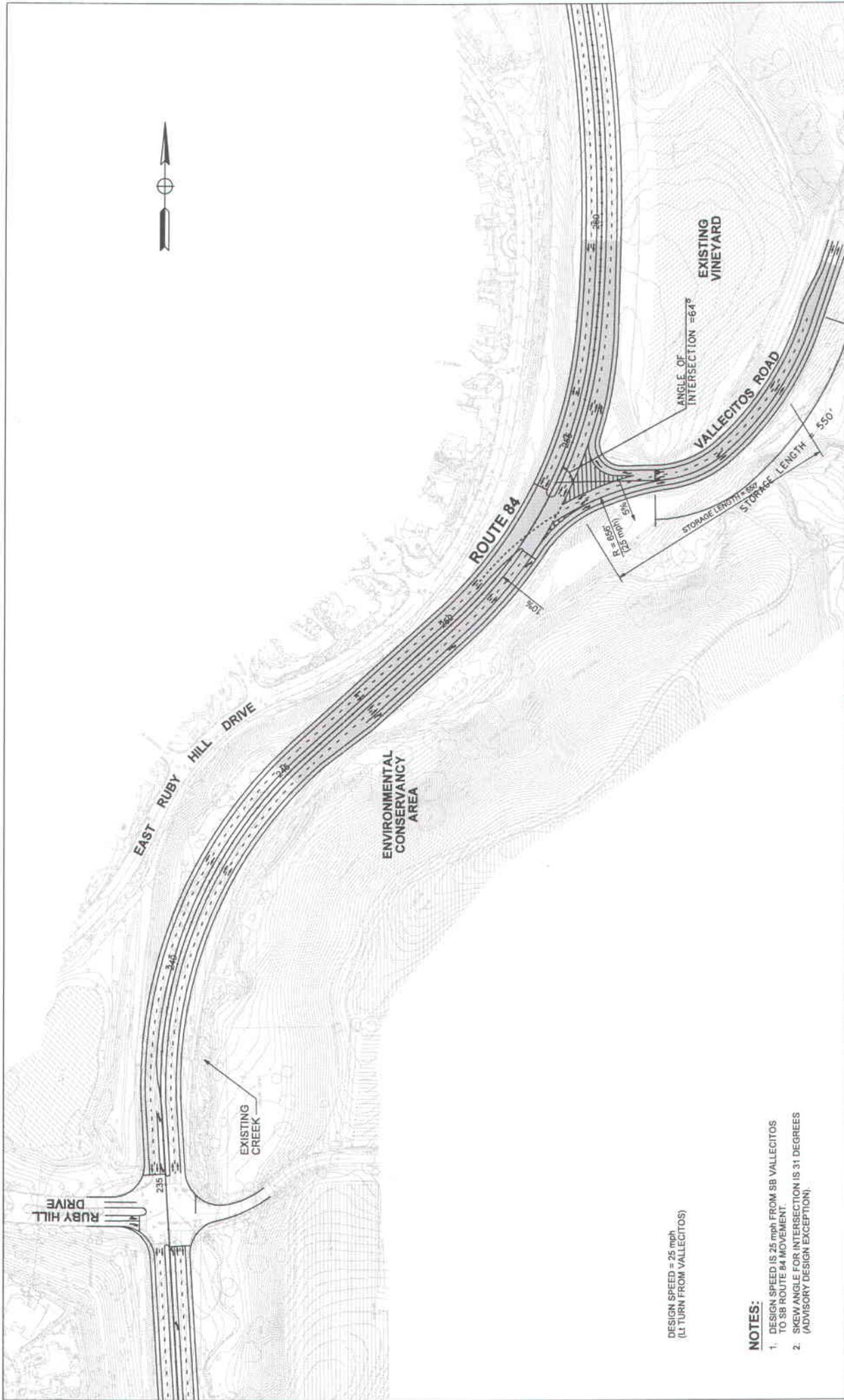
## ***List of Tables***

Table B-1	Design Option Comparison Matrix: SR 84 Alignment (Ruby Hill Drive to Vallecitos Road)
Table B-2	Design Option Comparison Matrix: Vallecitos Road Intersection Geometric Options
Table B-3	Design Option Comparison Matrix: Stanley Intersection Design Options





**Figure B-1**  
**ROUTE 84 EXPRESSWAY WIDENING PROJECT**  
**PSR ALIGNMENT - RUBY HILL DRIVE TO VALLECITOS ROAD**  
February 23, 2006

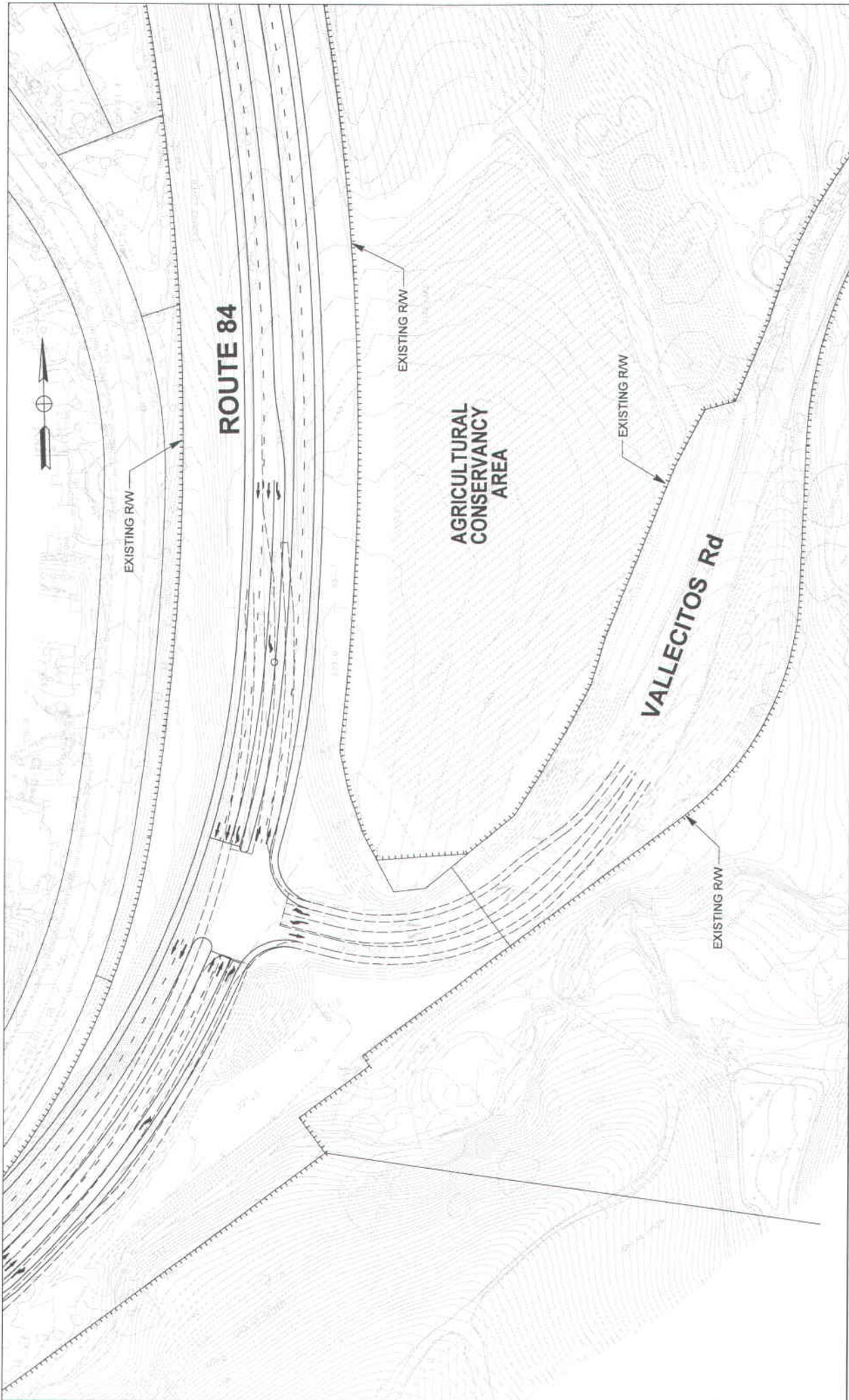


DESIGN SPEED = 25 mph  
(LT TURN FROM VALLECITOS)

**NOTES:**

1. DESIGN SPEED IS 25 mph FROM SB VALLECITOS TO SB ROUTE 84 MOVEMENT.
2. SKEW ANGLE FOR INTERSECTION IS 31 DEGREES (ADVISORY DESIGN EXCEPTION).

<p>SCALE 1"=200' Figure <b>B-2</b> May 15, 2006</p>	<p><b>MODIFIED VALLECITOS ROAD INTERSECTION</b></p>
<p><b>ROUTE 84 EXPRESSWAY WIDENING</b> ALA 84 - FM 22.5 / 27.3 04 - 297600</p>	<p><b>URS</b></p>
<p><b>VALLECITOS / ROUTE 84 INTERSECTION - OPTION A</b></p>	



**VALLECITOS / ROUTE 84 INTERSECTION  
 OPTION B**

**ROUTE 84  
 EXPRESSWAY WIDENING**  
 ALA 84 - PM 22.5 / 27.3  
 04 - 297600



DIST	COUNTY	ROUTE	POST MILES	SHEET TOTAL
04	AIO	84	22.5/27.3	SHEETS

REGISTERED CIVIL ENGINEER

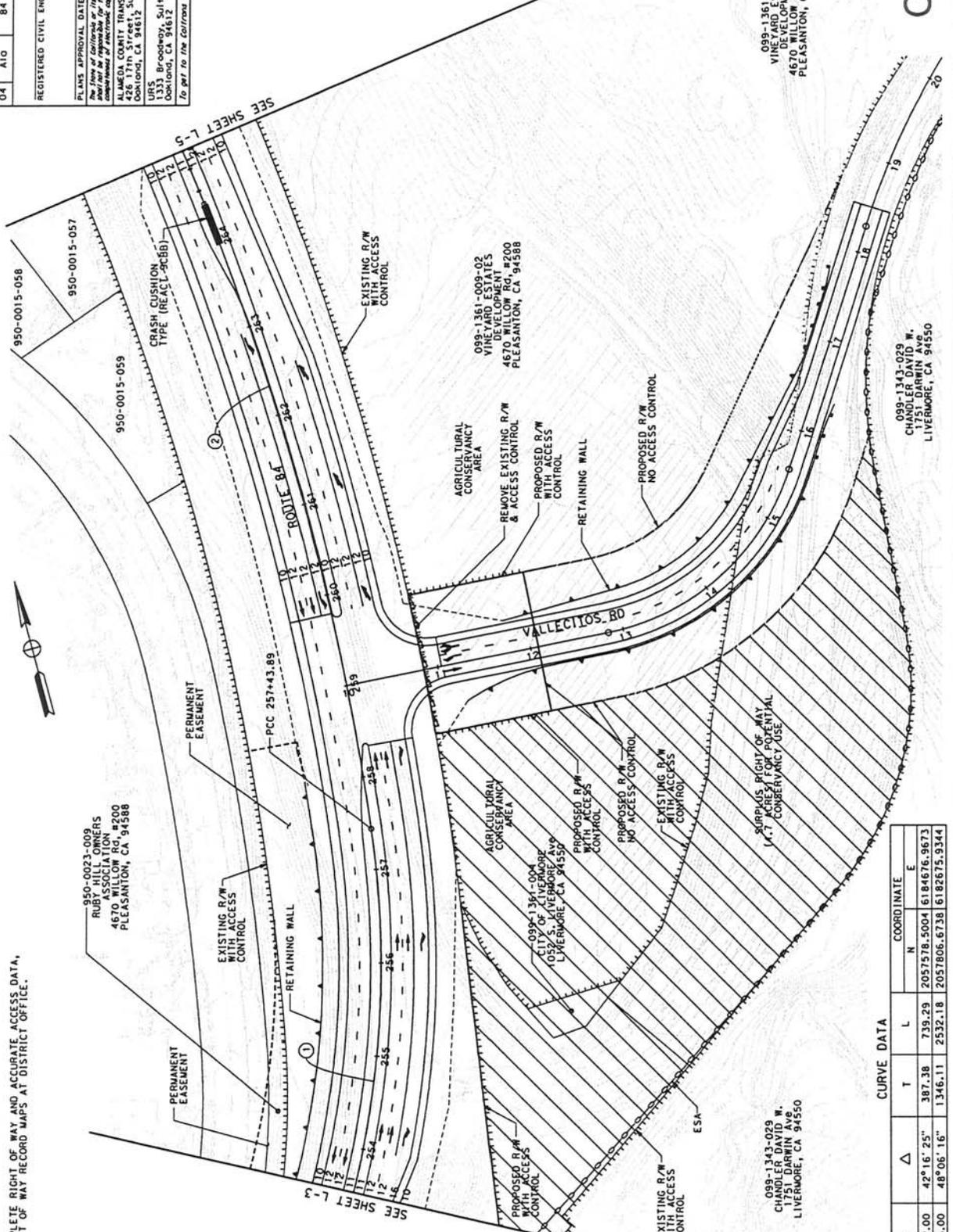
PLANS APPROVAL DATE

The firm of California or its officers or agents shall not be responsible for the accuracy or completeness of the information shown on this sheet.

ALAMEDA COUNTY TRANSPORTATION IMPROVEMENT AUTHORITY  
426 17th Street, Suite 100B  
Oakland, CA 94612

URS | Broadway, Suite 800  
Oakland, CA 94612  
To get to the California web site, go to: <http://www.ctia.ca.gov>

NOTE:  
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,  
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



No.	R	Δ	T	COORDINATE	
				N	E
①	1002.00	42°16'25"	387.38	739.29	2057578.5004 6184676.9673
②	3016.00	48°06'16"	1346.11	2532.18	2057806.6738 6182675.9344

CURVE DATA

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

OPTION C

CU 00000 EA 297600

Figure B-3B VALLECITOS/ROUTE 84 INTERSECTION OPTION C



# STANLEY - FULL INTERCHANGE

August 25, 2006

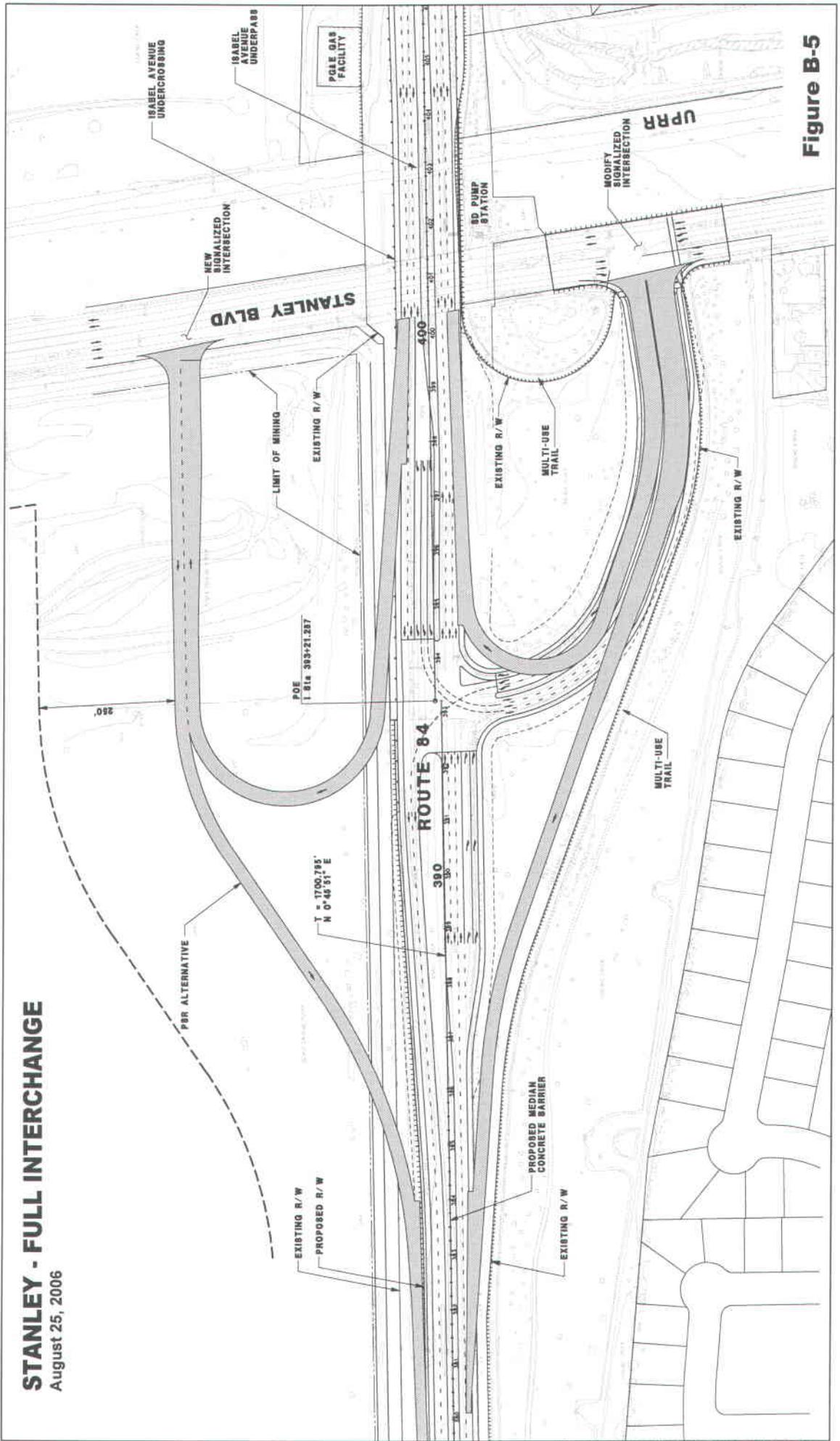


Figure B-5

**Table B-1 Design Option Comparison Matrix: SR 84 Alignment (Ruby Hill Drive to Vallecitos Road)**

<b>Evaluation Criteria</b>	<b>PSR(PDS) Alignment</b>	<b>Build Alternative</b>
1. <i>Construction Cost</i>	\$10.4M	\$8.5M
2. <i>Geometric Design Standards</i>	Need to relocate Ruby Hill Drive and Vallecitos Road intersections to a location where the superelevation rate would not affect vehicle-turning movements.	Rate of change of superelevation on S-curve meets minimum State standards.  Need to relocate or modify Vallecitos Road so the superelevation rate would not affect vehicle turning movements.
3. <i>Safety</i>	Expressway design speed provided (55 mph).	Expressway design speed provided (55 mph).
4. <i>Right-of-Way</i>		
Number of Private Parcels to be Acquired	3 partial takes.	5 partial takes.
Area of Private Parcels to be Acquired	8.4 acres.	1.1 acres.
5. <i>Environmental Impacts</i>		
Environmental Sensitive Area	<b>Bisects environmental conservation easement owned by Tri-Valley Conservancy (TVC). Loss of numerous native oak trees.</b>	None.
Species of Concern	<b>Loss of California tiger salamander and red-legged frog habitat.</b>	None.
Wetlands	<b>Loss of biological mitigation site and riparian habitat. 5.5 acres of permanent impacts.</b>	None.
Geology, Soils and Seismicity	<b>Alignment would cut into a steep hillside area and require extensive cut slopes up to 80 feet in height.</b>	Requires retaining wall with height up to 30 feet adjacent to Ruby Hill development.
Floodplain	<b>Encroaches into a creek tributary of Arroyo del Valle requiring creek realignment and construction of new culverts.</b>	None.
Visual	<b>SR 84 more visible to Ruby Hill residences.</b>	Extensive retaining wall required.
6. <i>Community Acceptability</i>		
Public Opinion	No comment at this time.	No comment at this time.
Environmental Resource Agencies	<b>Build Alternative has significantly fewer environmental impacts.</b>	Environmentally superior alternative.
Local Agencies	City of Livermore and TVC do not support this option.	City of Livermore and TVC support this option.

**Note: The bold text indicates reasons for withdrawing design option.**

**Table B-2 Design Option Comparison Matrix: Vallecitos Road Intersection Geometric Options**

Criteria	Option A (Build Alternative)	Option B	Option C	Option D	Option E
1. Description	Maintain existing intersection location. Provide increased curve radius for turning movements by aligning Vallecitos connection to intersection with skew of 75 degrees. Eliminate left turn to Vallecitos.	Maintain existing intersection location and configuration. Maintain 10% superelevation rate on SR 84	Relocate intersection approx. 450 feet to north, to location where SR 84 superelevation rate is 4%	Close intersection and divert traffic to alternate routes (e.g. Vineyard Avenue, Concannon Boulevard)	Develop one-way couplet system where northbound SR 84 traffic would use Vallecitos Road, and southbound SR 84 traffic would be diverted to alternate routes (e.g. Vineyard Avenue, Concannon Boulevard)
2. Construction Cost	\$3.2M	\$3.36M	\$6.63M	<\$3M to improve adjacent intersections	<\$3M to improve adjacent intersections
3. Geometric Standard	Advisory design exception needed for intersection located on high-speed curve with superelevation of 10%	Advisory design exception needed for intersection located on high-speed curve with superelevation of 10%	Meets expressway design standard	Meets expressway design standard	Meets expressway design standard
Superelevation rate	10%	10%	4%	10%	10%
4. Safety	Minimizes potential for trucks to overturn	<b>Potential for trucks to overturn</b>	<b>Potential for trucks to overturn</b>	No turning movements	Intersection cross slope avoids potential for trucks to overturn
Posted Speed	50 mph	50 mph	50 mph	50 mph	50 mph
Conflicting turning movements	Left turns from southbound SR 84 are eliminated.	No change	No change	None	None
Intersection location	Intersection located on high-speed curve	Intersection located on high-speed curve	Intersection located on high-speed curve	Intersection is eliminated	Intersection is eliminated
5. Traffic Operations	Two-phase signal would further improve intersection operations	Intersection would operate at LOS C or better	Intersection would operate at LOS C or better	<b>Increased delays at other SR 84 intersections due to diverting traffic</b>	<b>Increased delays at other SR 84 intersections due to diverting traffic</b>

Criteria	Option A (Build Alternative)	Option B	Option C	Option D	Option E
6. Stage Construction	Multiple phases of construction required to maintain traffic movements	Multiple phases of construction required to maintain traffic movements	Existing intersection remains operational while new facility is constructed	No stage construction issues identified	No stage construction issues identified
<b>7. Right-of-Way</b>					
Number of Private Parcels to Be Acquired	No acquisition	No acquisition	<b>Partial take from agricultural conservation easement. Impacts 20-acre parcel with residence.</b>	No acquisition	1 partial take required to widen eastbound approach to SR 84 / Vineyard Avenue intersection
Area of Private Parcels to Be Acquired	No acquisition	No acquisition	3.2-acre take from a 20-acre parcel	No acquisition	0.2 acre
8. Environmental Impacts	No impact	No impact	<b>Loss of vineyard land, agricultural conservation easement, and Williamson Act land</b>	<b>Additional environmental studies required to assess impacts (schedule delay). Loss of access to homes on Vallecitos Road.</b>	<b>Additional environmental studies required to assess impacts (schedule delay). Loss of access to businesses and homes on Vallecitos Road.</b>
<b>9. Community Acceptability</b>					
Public Opinion	Preference to keep existing location of intersection	Preference to keep existing location of intersection	Numerous comments opposing relocation of intersection	City of Livermore received public opposition when Vallecitos was temporarily closed	Preference to keep existing location of intersection
Local Agencies			Tri-Valley Conservancy and County Supervisor oppose relocation of intersection	City of Livermore does not support	

**Note: Bold text indicates reasons for withdrawing design option.**

**Table B-3 Design Option Comparison Matrix: Stanley Intersection Design Options**

<b>Option</b>	<b>Description</b>	<b>Approx. Cost</b>	<b>Pros</b>	<b>Cons</b>
A	Construct full interchange by mining gravel to ground water level (GWL), backfilling with embankment above GWL, and compensating quarry owner for unmined gravel material	\$31.6M	<ul style="list-style-type: none"> <li>Requires less excavation than Options B and C</li> <li>Requires less backfill than Options C and D</li> </ul>	<ul style="list-style-type: none"> <li><b>Cost to compensate quarry owner for unmined gravel would exceed available funding</b></li> <li><b>Loss of mineral resources to quarry owner</b></li> </ul>
B	Construct full interchange by mining gravel, backfilling with rock to GWL, and backfilling with embankment material above GWL	\$99M	<ul style="list-style-type: none"> <li>Compensation of unmined gravel not required</li> </ul>	<ul style="list-style-type: none"> <li><b>Cost would exceed available funding</b></li> <li>Highway project pays for excavation of gravel</li> </ul>
C	Construct interchange by mining gravel and constructing interchange ramps on structures	\$110M	<ul style="list-style-type: none"> <li>No backfill material required</li> <li>Less impact to future Chain of Lakes than Options A, B and D</li> </ul>	<ul style="list-style-type: none"> <li><b>Cost would exceed available funding</b></li> <li>Underwater construction or major dewatering operations required to build structures</li> <li>Water quality concern if haz. mat. spill occurs when Chain of Lakes are operational</li> </ul>
D	Construct interchange after mining is complete	\$179M	<ul style="list-style-type: none"> <li>Compensation of unmined gravel not required</li> </ul>	<ul style="list-style-type: none"> <li><b>Cost would exceed available funding</b></li> <li>Highest cost due to escalation of construction costs</li> </ul>
E	Construct interchange with ramps to northwest and southeast of Stanley Boulevard	No cost estimate developed Option is not considered to be feasible	<ul style="list-style-type: none"> <li>No impacts to quarry or future Chain of Lakes</li> </ul>	<ul style="list-style-type: none"> <li><b>Cost would exceed available funding</b></li> <li>Not feasible unless railroad alignment is elevated</li> <li>Impacts to Arroyo Mocho and biological mitigation area</li> <li>Off-ramp too close to Discovery Drive</li> </ul>
F	Eliminate Stanley Intersection and connector ramp to Stanley Boulevard	\$1M	<ul style="list-style-type: none"> <li>Enhances access control on SR 84</li> </ul>	<ul style="list-style-type: none"> <li><b>Diverted traffic would increase congestion at other SR 84 intersections</b></li> <li><b>Loss of local access to City of Livermore</b></li> </ul>
G	Modified Signal Intersection (Build Alternative)	\$3.5M	<ul style="list-style-type: none"> <li>Most cost effective solution</li> <li>No impacts to quarry or future Chain of Lakes</li> <li>Minimizes utility relocations</li> <li>Similar traffic operations to interchange options</li> </ul>	<ul style="list-style-type: none"> <li>Not consistent with PSR (PDS) document and previous studies and reports.</li> </ul>

Option	Description	Approx. Cost	Pros	Cons
H	Modified Signal Intersection with EB Stanley Blvd. diamond on-ramp to SB Route 84	\$15M	<ul style="list-style-type: none"> <li>Reduced impacts to full interchange options</li> </ul>	<ul style="list-style-type: none"> <li>Impacts to mining operations and Chain of Lakes</li> <li><b>Partial interchanges does not meet State design standards</b></li> </ul>

**Note: Bold text indicates reasons for withdrawing design option.**



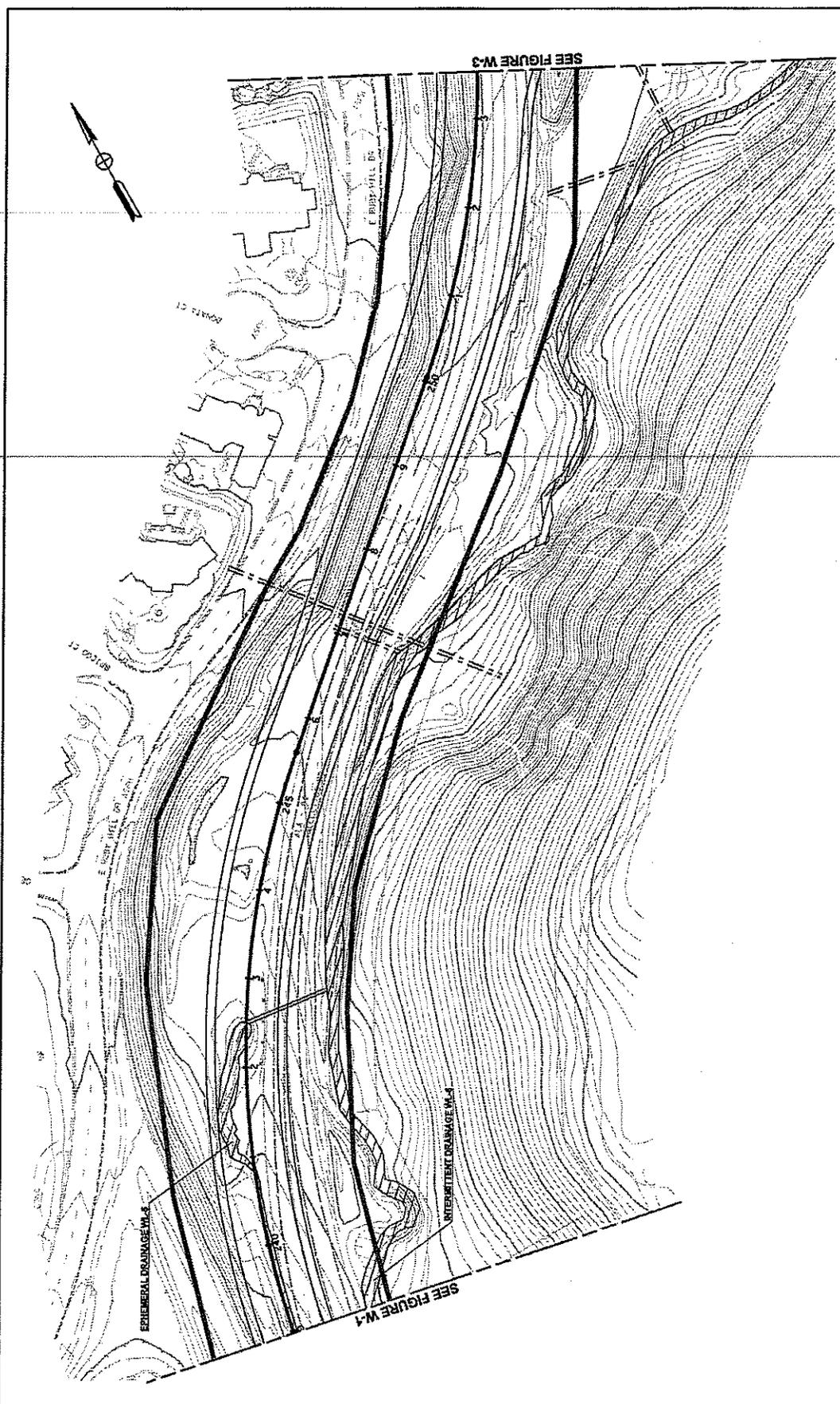
## **Appendix C** Environmentally Sensitive Resources

---

Figures W-1 through W-18 show the potentially jurisdictional waters within the Environmental Study Limit (ESL), which encompasses existing State right-of-way along SR 84 from Ruby Hill Drive north to Jack London Boulevard, proposed right-of-way for roadway widening and intersection improvements within the project limits, and additional areas surrounding the project limits.







NO SCALE  
Appendix C  
Figure  
**W-2**  
JULY 2003

**JURISDICTIONAL DELINEATION**

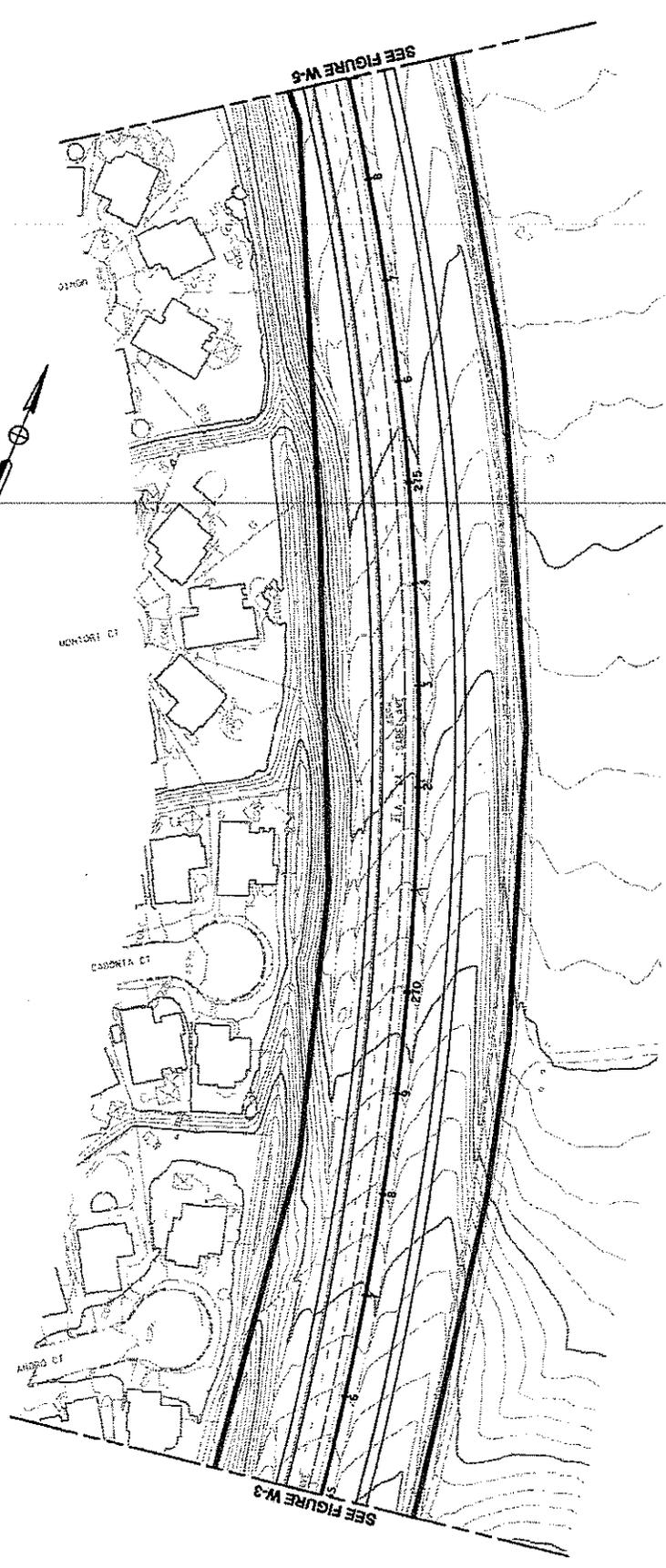
**ROUTE 84  
EXPRESSWAY WIDENING**  
ALA 64-PM 22.57.27.3  
04-287600

**URS**

**ABBREVIATIONS**  
ESL Environmental Study Limit  
DW Drainage  
WIL Wetland  
WIL Drainage/Wetland

**LEGEND**  
Jurisdictional Waters of the U.S.  
Non-Jurisdictional Waters of the U.S.  
Freshwater Wetland  
Culvert





NO SCALE  
 Approximate  
 Figure  
**W-4**  
 June 2003

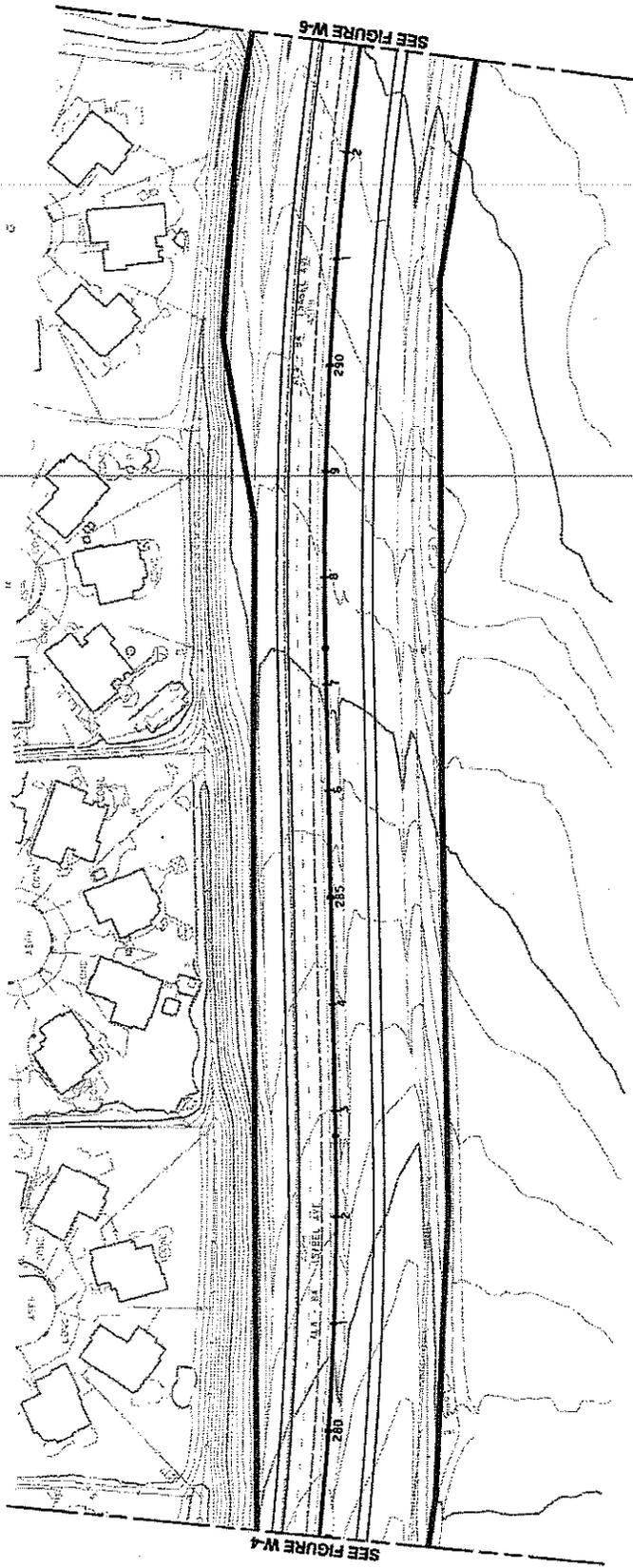
**JURISDICTIONAL DELINEATION**

**ROUTE 84  
 EXPRESSWAY WIDENING**  
 ALA 84 - PM 22.5 / 27.3  
 04 - 287600



**ABBREVIATIONS**  
 Environmental Study Unit  
 Drainage/Other Wetters  
 Drainage/Wetland

**LEGEND**  
 Jurisdictional Wetlands of the U.S.  
 Wetlands of the U.S.  
 Freshwater Wetland  
 Culvert



NO SCALE  
Appendix C  
Figure  
**W-5**  
JULY 2003

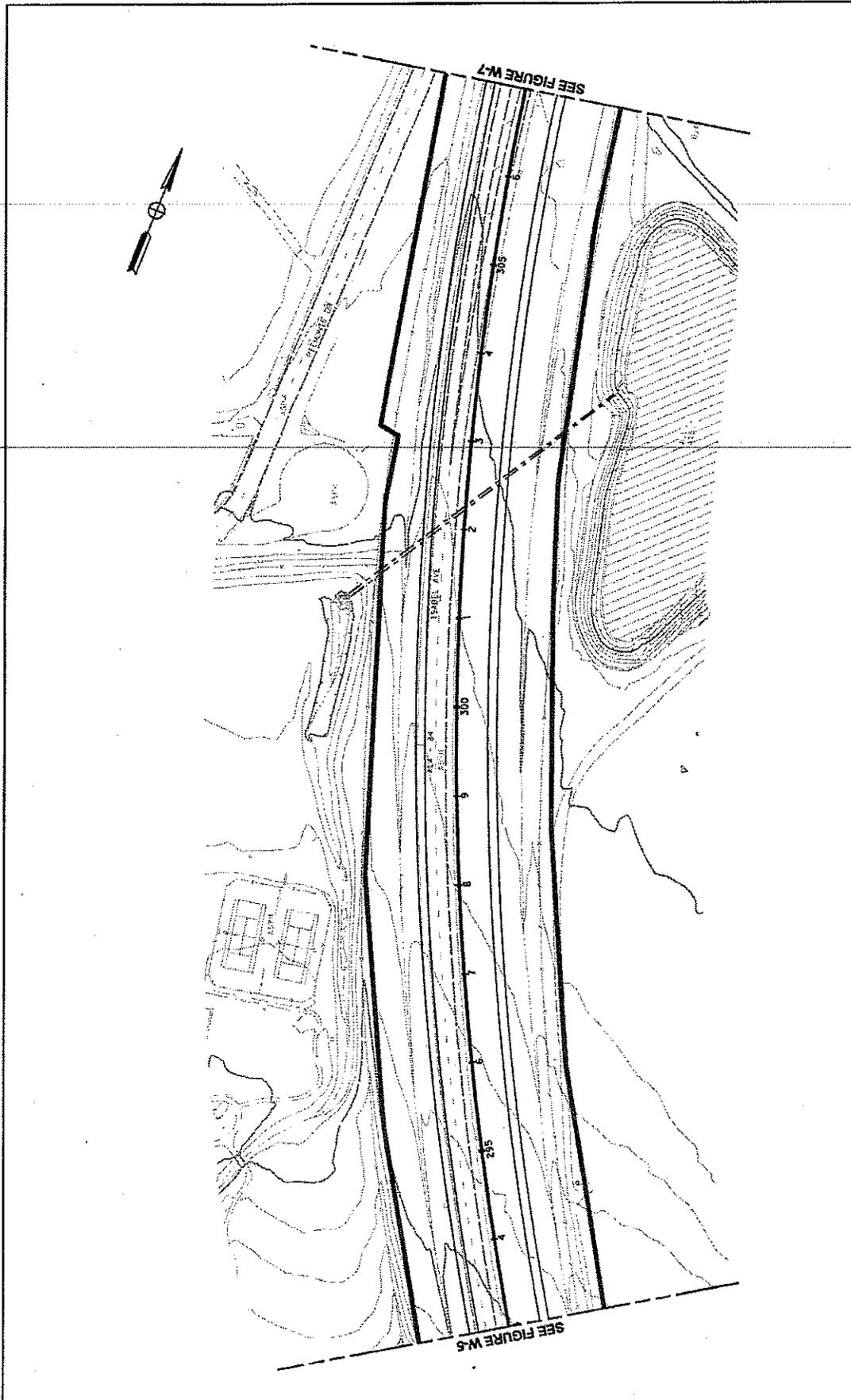
**JURISDICTIONAL DELINEATION**

**ROUTE 84  
EXPRESSWAY WIDENING**  
ALA 84 - PH 22.5 / 27.3  
04 - 23/600



**ABBREVIATIONS**  
ESL Environmental Study Limit  
CWI Drainage/Other Waters  
WIL Drainage/Wetland

**LEGEND**  
Jurisdictional Waters of the U.S.  
Non-Jurisdictional Waters of the U.S.  
Freshwater Wetland  
CWI



NO SCALE  
 Appendix C  
 Figure  
**W-6**  
 JUNE 2008

**JURISDICTIONAL DELINEATION**

**ROUTE 84  
 EXPRESSWAY WIDENING**  
 ALA 84 - PM 22.5 / 27.3  
 04 - 237600

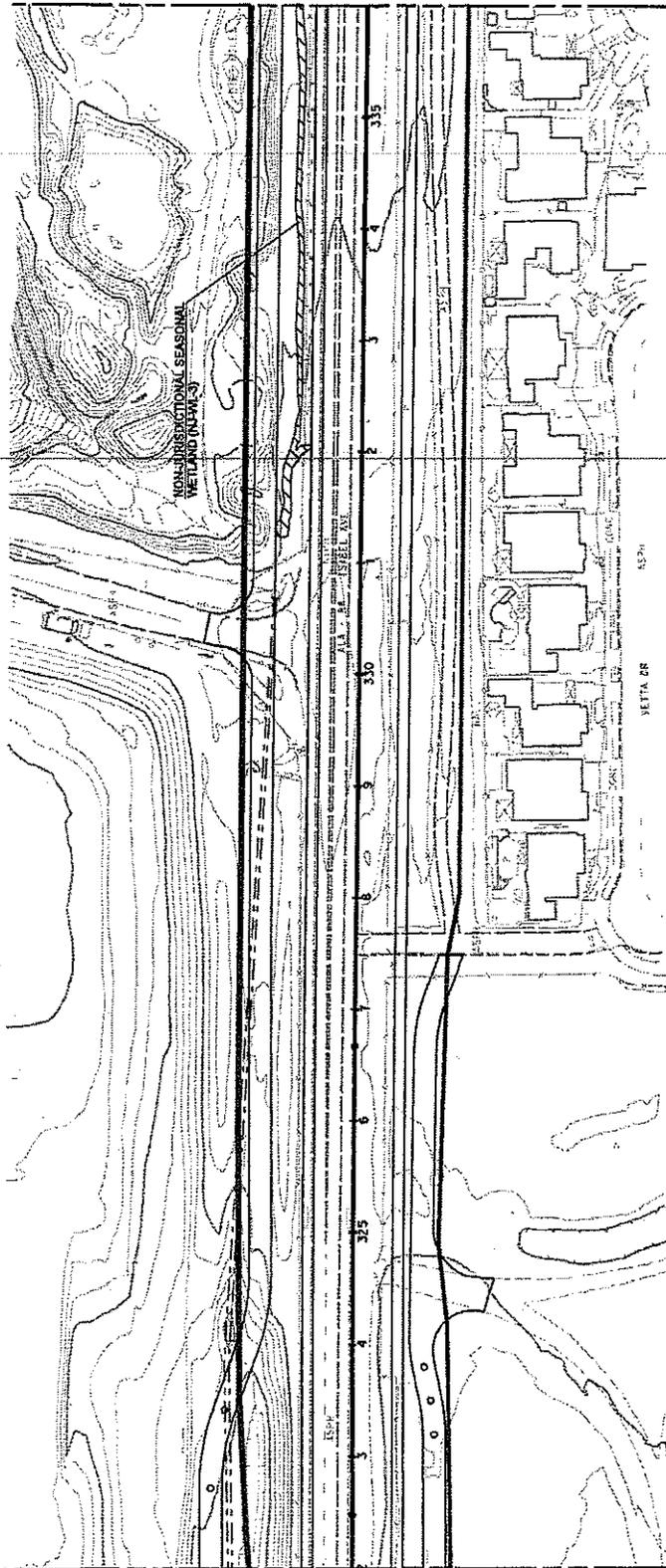


**ABBREVIATIONS**  
 Environmental Study Limit  
 Drainage/Clear Waters  
 Drainage/Wetland

Jurisdictional Waters of the U.S.  
 Non-Jurisdictional Waters of the U.S.  
 Freshwater Wetland  
 Culvert

**LEGEND**





SEE FIGURE W-7

SEE FIGURE W-9

**LEGEND**

- Jurisdictional Waters of the U.S.
- Non-Jurisdictional Waters of the U.S.
- Freshwater Wetland
- Culvert

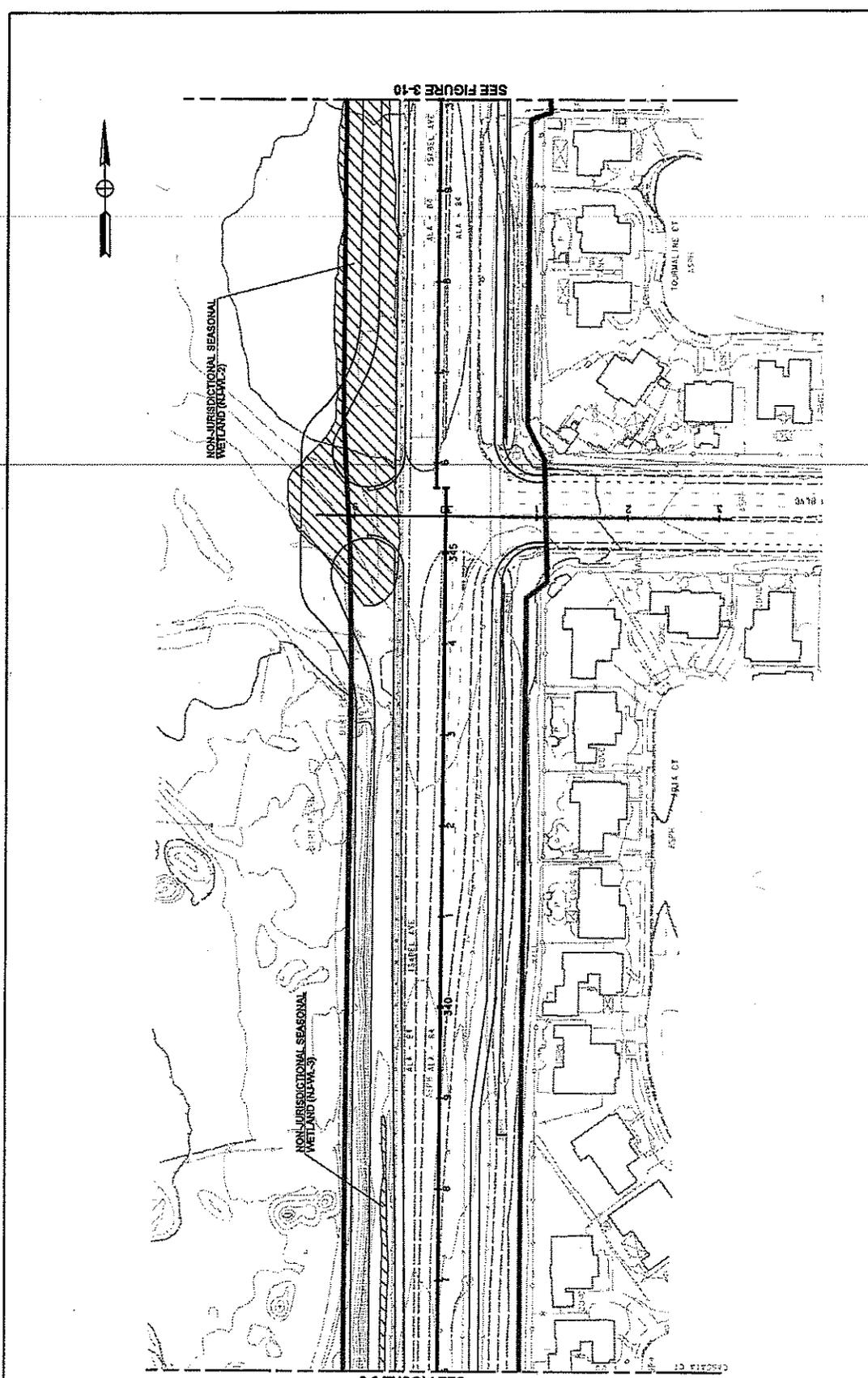
- ABBREVIATIONS**
- Environmental Study Unit
  - Drainage/Other Waters
  - Drainage/Wetland

**URS**

**ROUTE 84  
EXPRESSWAY WIDENING**  
ALA 84 - PM 22.57/27.3  
04-281680

**JURISDICTIONAL DELINEATION**

NO SCALE  
Appendix C  
Figure  
**W-8**  
June 2008



NO SCALE  
Appendix G  
Figure  
**W-9**  
JUNE 2008

**JURISDICTIONAL DELINEATION**

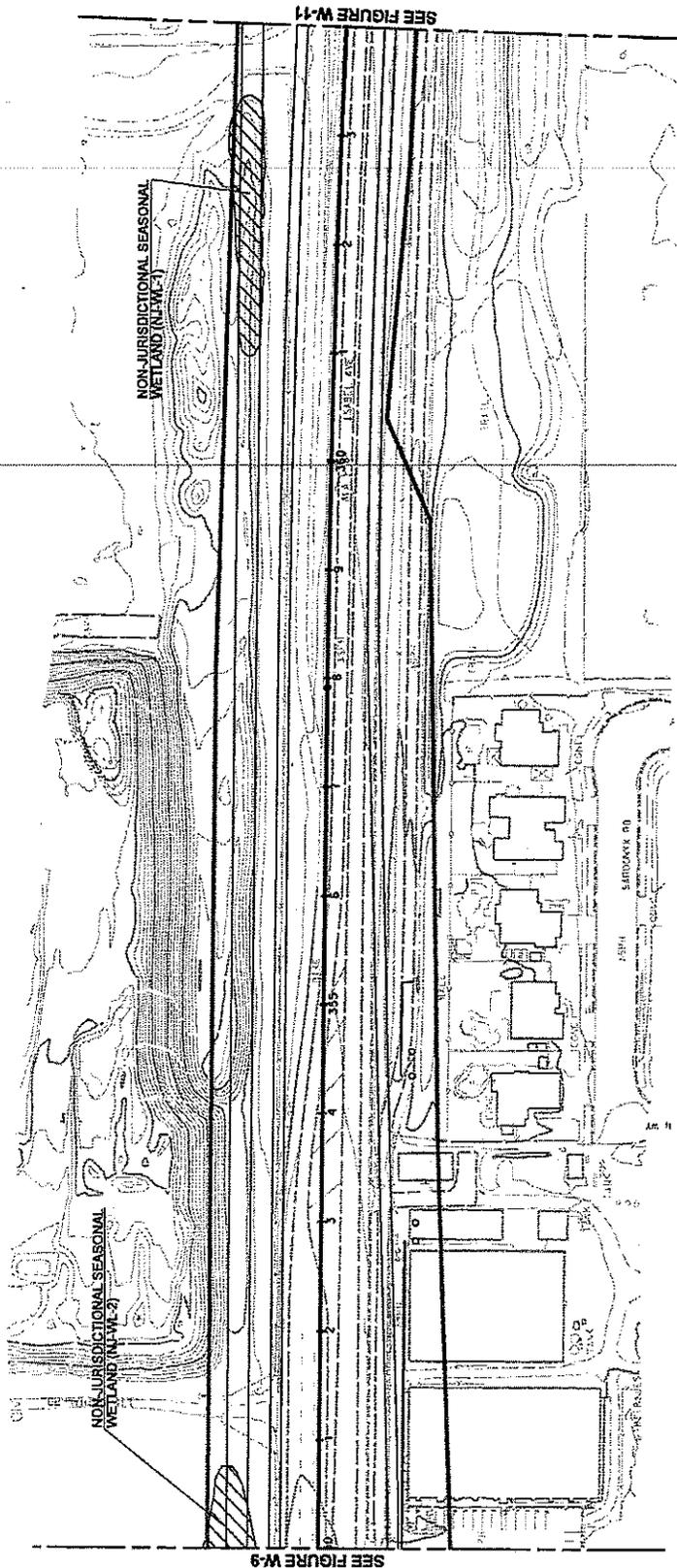
**ROUTE 84  
EXPRESSWAY WIDENING**  
ALA 84 - PM 22.5 / 27.3  
04 - 287600



**ABBREVIATIONS**  
 ESL Environmental Study Limit  
 O/W Drainage Other Waters  
 W/L Drainage Wetland

**LEGEND**  
 Jurisdictional Waters of the U.S.  
 Non-Jurisdictional Waters of the U.S.  
 Freshwater Wetland  
 Channel

1:\ms-130416\p47000\cont files\wtr\form\130416\m1-02.dwg



SEE FIGURE W-11

SEE FIGURE W-9

NO SCALE  
Appendix C  
Figure  
**W-10**  
JUNE 2008

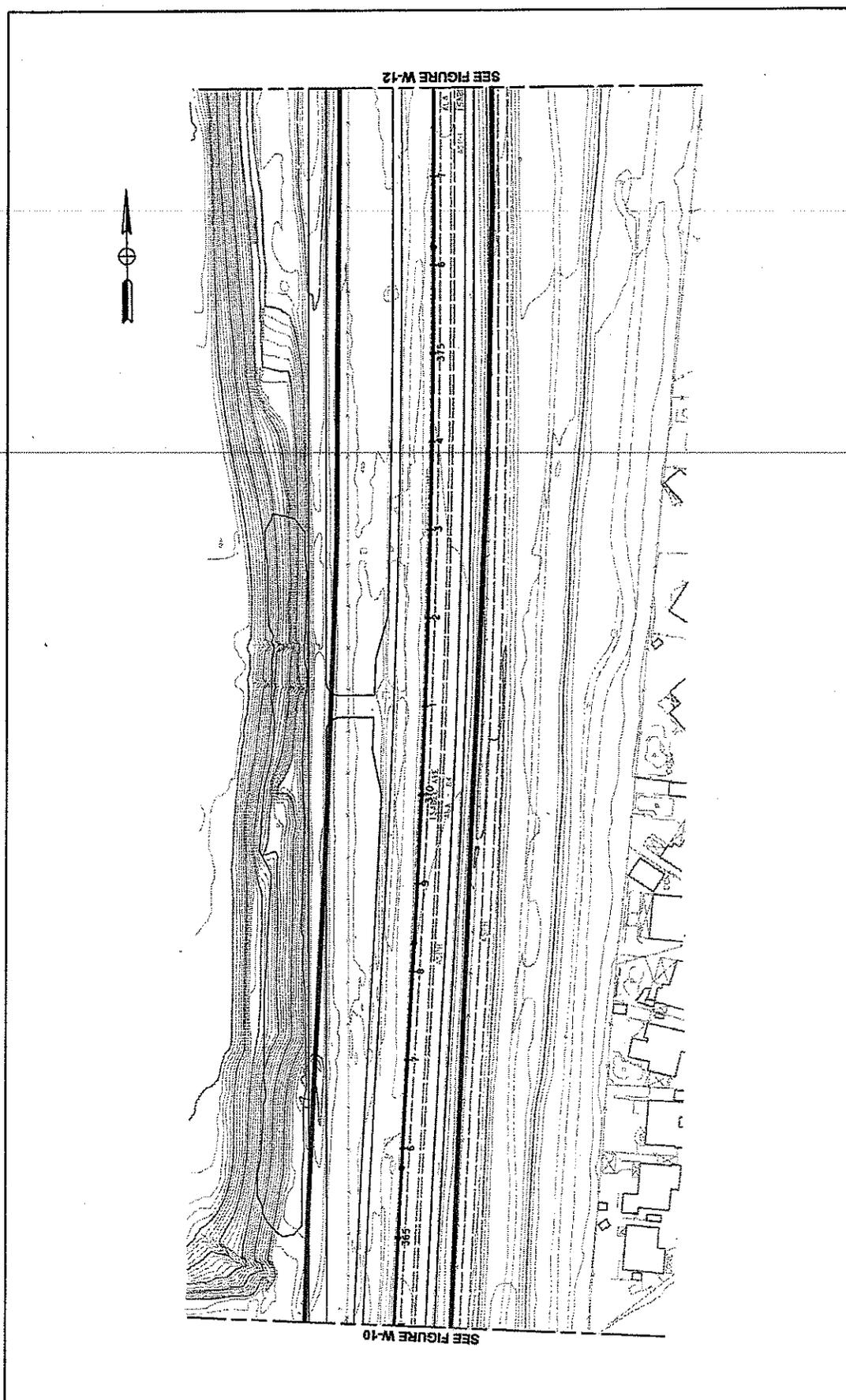
**JURISDICTIONAL DELINEATION**

**ROUTE 84  
EXPRESSWAY WIDENING**  
ALA 84 - PH 22.5 / 27.3  
CA - 297600



**ABBREVIATIONS**  
ESL Environmental Study Limit  
OWW Drainage Other Wetland  
WJW Drainage Wetland

**LEGEND**  
Jurisdictional Wetland of the U.S.  
Non-Jurisdictional Wetland of the U.S.  
Freshwater Wetland  
Cobalt  
Dredge



NO SCALE  
Appendix C  
Figure  
**W-11**  
JUNE 2009

**JURISDICTIONAL DELINEATION**

**ROUTE 84  
EXPRESSWAY WIDENING**  
ALA 84 - PM 22.5 / 27.3  
04 - 287600

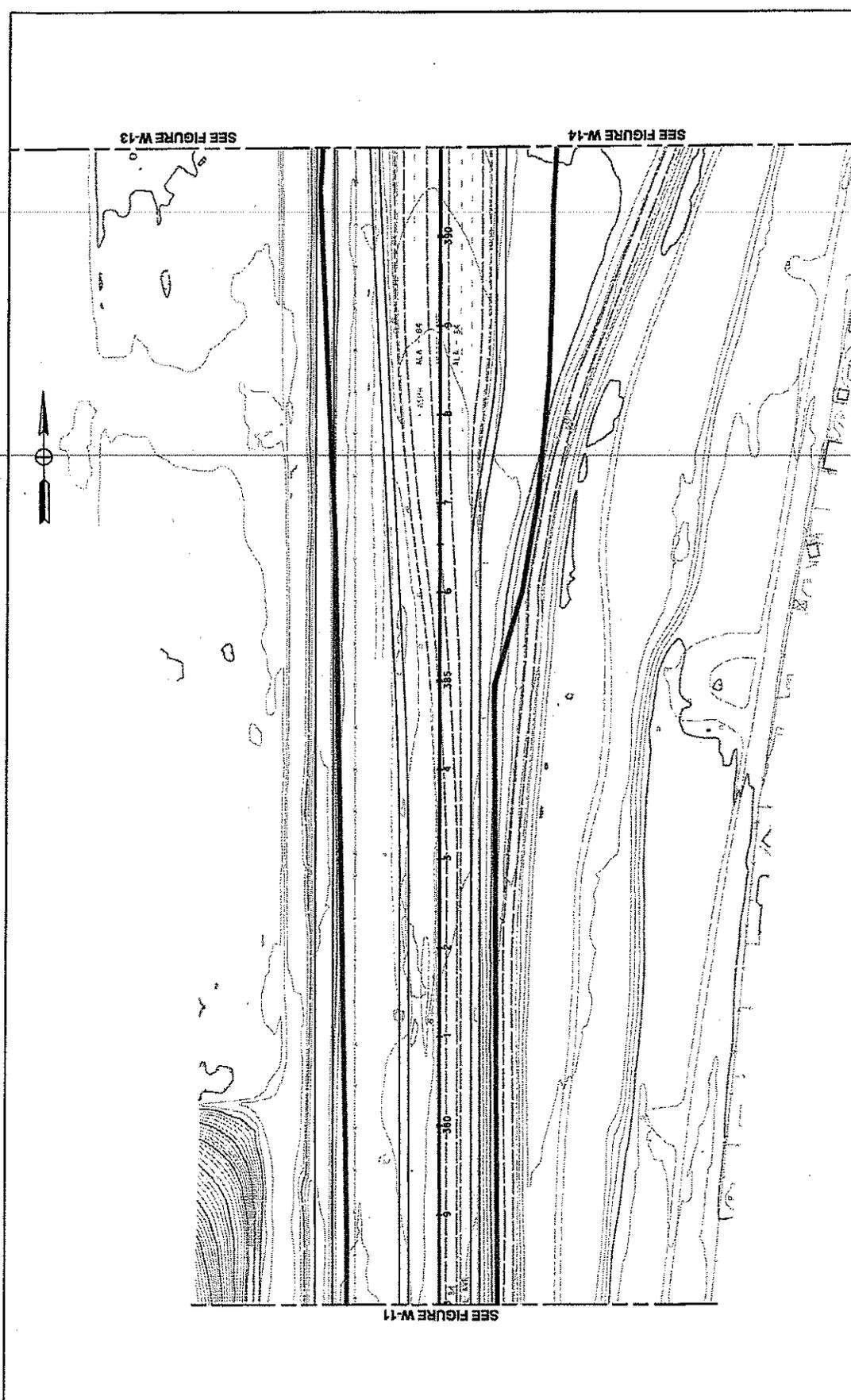


**ABBREVIATIONS**  
 Environmental Study Limit  
 Drainage Course  
 Drainage Head

ESL  
 OW  
 WL

Jurisdictional Waters of the U.S.  
 Non-tidal Wetlands of the U.S.  
 Freshwater Wetland  
 100' Buffer Zone

**LEGEND**



NO SCALE  
Appendix C  
Figure  
**W-12**  
JULY 2008

**JURISDICTIONAL DELINEATION**

**ROUTE 84  
EXPRESSWAY WIDENING**  
ALA 84 - PH 22.5 / 27.3  
04 - 287600



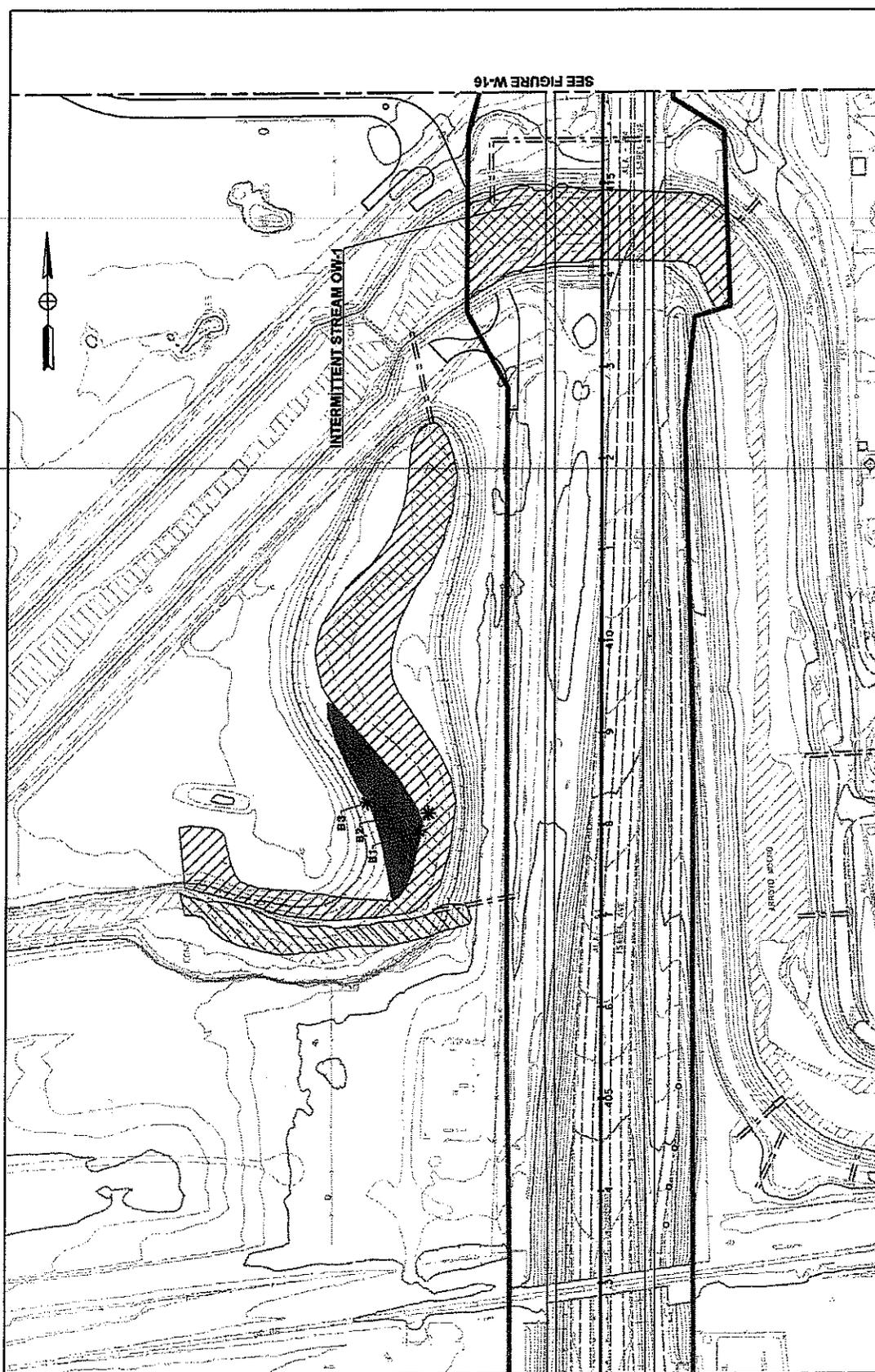
**ABBREVIATIONS**  
ESL Elevation Study Limit  
OW Drainage Channel  
WIL Drainage Wetland

**LEGEND**  
 Jurisdictional Wetland of the U.S.  
 Non-Jurisdictional Wetland of the U.S.  
 Freshwater Wetland  
 Culvert

1164-1262116 04-1000-0002 (1164-1262116) (1164-1262116) (1164-1262116) (1164-1262116)







NO SCALE  
 APPROXIMATE  
 Figure  
**W-15**  
 JUNE 2008

**JURISDICTIONAL DELINEATION**

**ROUTE 84  
 EXPRESSWAY WIDENING**  
 ALA 84 - PM 22.5 / 27.3  
 04 - 201800

**URS**

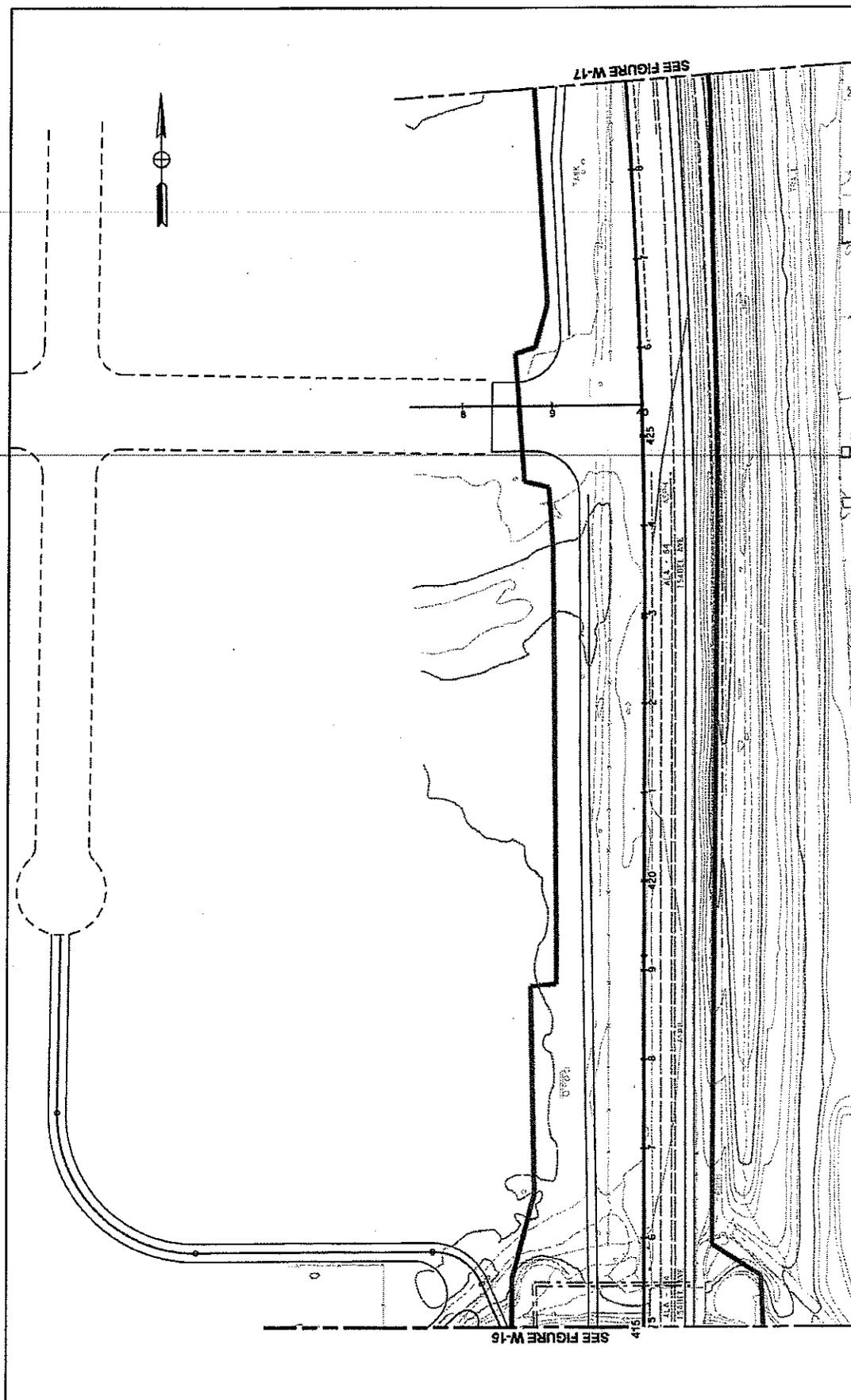
**ABBREVIATIONS**  
 Environmental Study Limit  
 Drainage Order Viaduct  
 Drainage Headed

**LEGEND**  
 Jurisdictional Waters of the U.S.  
 Non-Jurisdictional Waters of the U.S.  
 Freshwater Wetland  
 Canal  
 Viaduct Sampling Point

SEE FIGURE W-13

SEE FIGURE W-14

SEE FIGURE W-16



SEE FIGURE W-17

SEE FIGURE W-16

NO SCALE  
As Shown  
Figure  
**W-16**  
Aug. 2008

**JURISDICTIONAL DELINEATION**

**ROUTE 84  
EXPRESSWAY WIDENING**  
ALA 84 - PM 22.6 / 27.3  
04 - 287600

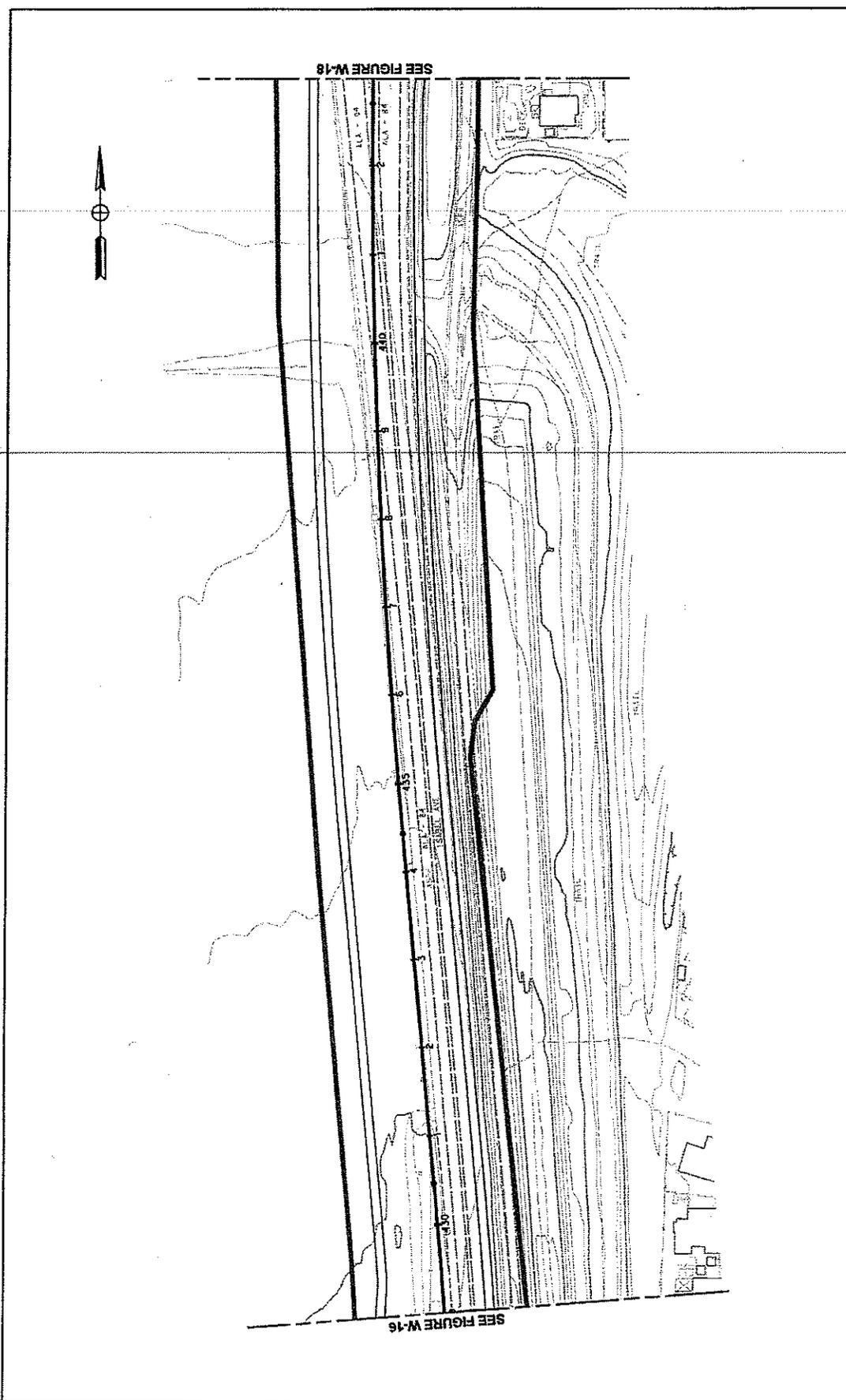


**ABBREVIATIONS**  
 Environmental Study Limit  
 Drainage/Other Features  
 Drainage/Wetland

ESL  
 OW  
 WL

Jurisdictional Vision of the U.S.  
 Environmental Study Limit  
 Drainage/Other Features  
 Drainage/Wetland  
 Contour  
 Centerline

**LEGEND**



NO SCALE  
Appendix C  
Figure  
**W - 17**  
JUNE 2008

**JURISDICTIONAL DELINEATION**

**ROUTE 64  
EXPRESSWAY WIDENING**  
ALA 64 - PM 22.5 / 27.3  
04 - 29/800



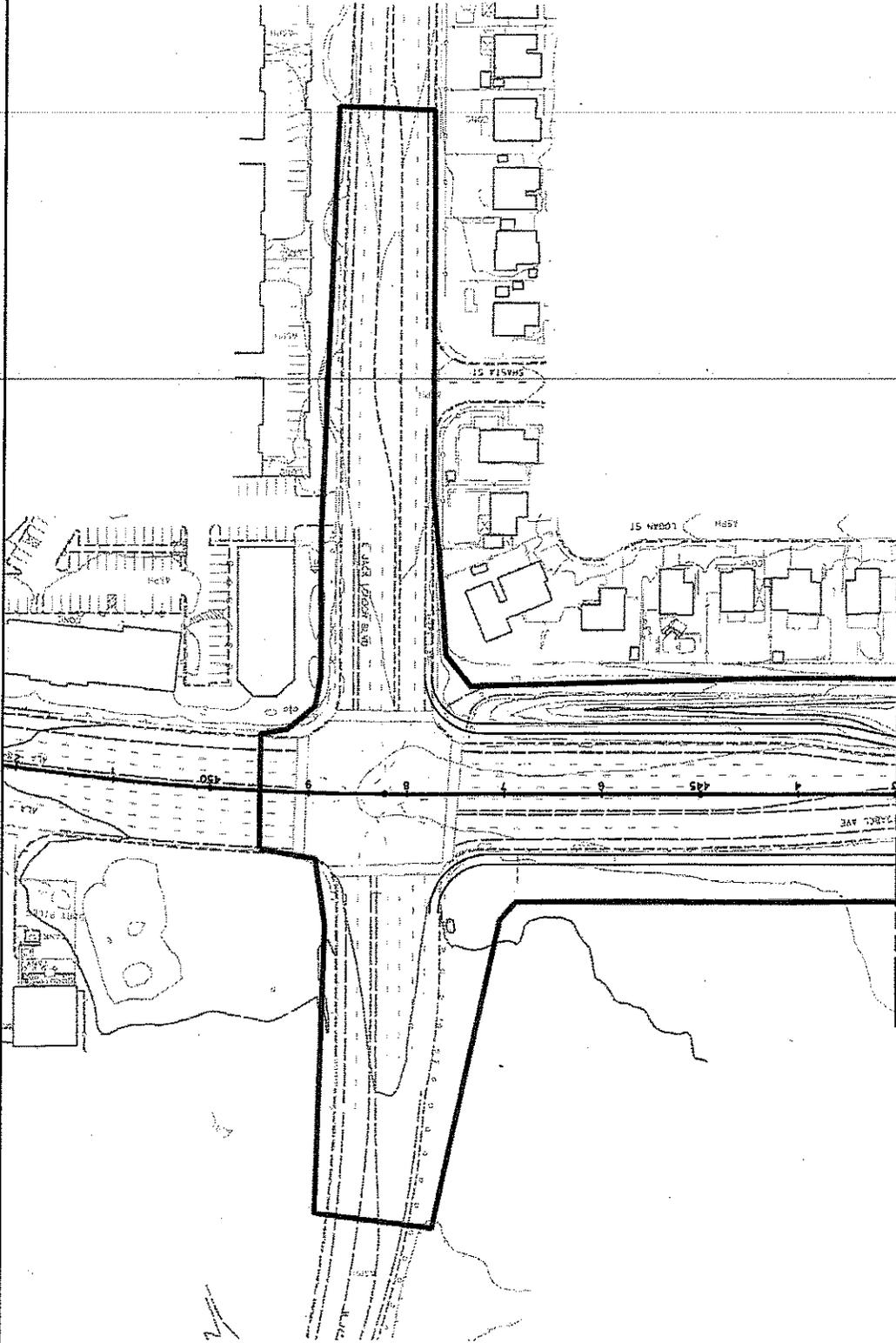
**ABBREVIATIONS**  
ESL Environmental Study Limit  
OW Outright Per Years  
WL Wetland

Jurisdictional Waters of the U.S.  
Non-Jurisdictional Waters of the U.S.  
Freshwater Wetland  
Culvert

**LEGEND**

SEE FIGURE W-18

SEE FIGURE W-16



SEE FIGURE W-17

NO SCALE  
 Appendix C  
 Figure  
**W-18**  
 FEB 2008

**JURISDICTIONAL DELINEATION**

**ROUTE 84  
 EXPRESSWAY WIDENING**  
 ALA 84 - PM 22.5 / 27.3  
 04 - 28/800



**ABBREVIATIONS**  
 Environmental Study Limit  
 Drainage Other Features  
 Drainage Network

**LEGEND**  
 Jurisdictional Waters of the U.S.  
 Non-Jurisdictional Waters of the U.S.  
 Freshwater Wetland  
 Channel  
 Culvert

## **Appendix D** CEQA Checklist

---

The following checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. The CEQA impact levels include potentially significant impact, less-than-significant impact with mitigation, less-than-significant impact, and no impact. Please refer to the following for detailed discussions regarding impacts:

- Guidance: Title 14, Chapter 3, California Code of Regulations, Sections 15000 et seq. ([http://www.ceres.ca.gov/topic/env\\_law/ceqa/guidelines/](http://www.ceres.ca.gov/topic/env_law/ceqa/guidelines/))
- Statutes: Division 13, California Public Resources Code, Sections 21000-21178.1 ([http://www.ceres.ca.gov/topic/env\\_law/ceqa/stat/](http://www.ceres.ca.gov/topic/env_law/ceqa/stat/))

CEQA requires that environmental documents determine significant or potentially significant impacts. In many cases, background studies performed in connection with the project indicate no impacts. A “no impact” reflects this determination.

Supporting documentation of all CEQA checklist determinations is provided in Chapter 2 and summarized in Table D-1 (immediately following the CEQA checklist). Documentation of “No Impact” determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or mitigation measures is under the appropriate topic headings in Chapter 2.

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

**AESTHETICS** - Would the project:

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Have a substantial adverse effect on a scenic vista?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

**AGRICULTURE RESOURCES** - In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

- |   |                          |                                     |                          |                                     |
|---|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use? | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use?  | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**AIR QUALITY** - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable Federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

d) Expose sensitive receptors to substantial pollutant concentration?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

e) Create objectionable odors affecting a substantial number of people?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

**BIOLOGICAL RESOURCES** - Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

c) Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

**CULTURAL RESOURCES -** Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

d) Disturb any human remains, including those interred outside of formal cemeteries?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

**GEOLOGY AND SOILS -** Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

ii) Strong seismic ground shaking?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

iii) Seismic-related ground failure, including liquefaction?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

iv) Landslides?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

b) Result in substantial soil erosion or the loss of topsoil?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

**HAZARDS AND HAZARDOUS MATERIALS –**

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

c) Emit hazardous emissions or handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

**HYDROLOGY AND WATER QUALITY** - Would the project:

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| f) Otherwise substantially degrade water quality?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| g) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| j) Inundation by seiche, tsunami, or mudflow?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

**LAND USE AND PLANNING** - Would the project:

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Physically divide an established community?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

**MINERAL RESOURCES** - Would the project:

- |   |                          |                                     |                                     |                          |
|---|--------------------------|-------------------------------------|-------------------------------------|--------------------------|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?                                | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |

**NOISE** - Would the project:

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

**POPULATION AND HOUSING -** Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

**PUBLIC SERVICES -**

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

Police protection?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

Schools?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

Parks?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

Other public facilities?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

**RECREATION -**

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

**TRANSPORTATION/TRAFFIC** - Would the project:

a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

c) Result in a change in air traffic patters, including either an increase in traffic levels or a change in location that results in substantial safety risks?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incomplete uses (e.g., farm equipment)?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

e) Result in inadequate emergency access?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

f) Result in inadequate parking capacity?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

**UTILITY AND SERVICE SYSTEMS** - Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

e) Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

g) Comply with Federal, state, and local statutes and regulations related to solid waste?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

**MANDATORY FINDINGS OF SIGNIFICANCE -**

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, or cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

**Discussion of CEQA Checklist Responses**

Comments received during the public review period requested clarification of the basis for the CEQA impact significance determinations presented in the DED. Table D-1 has been added to provide summary explanations for the CEQA checklist items, including page number references to the DED where applicable.

One significance determination has changed since the DED was circulated for public review. As a result of modifications to the project design (see Section 1.5.2), impacts to cultivated farmland will be avoided. Therefore, for Agricultural Resources checklist item “a),” the impact determination is now “no impact.”

In some cases as noted in Table D-1, Chapter 2 has been revised to provide additional information to help readers understand the project and its potential effects.

**Table D-1 Discussion of CEQA Checklist Responses**

Resource Area	Impact	Explanation (DED Page Reference)
<b>AESTHETICS</b>		
a) Have a substantial adverse effect on a scenic vista?	LTS	A scenic vista is typically a rural area containing natural visual elements that can be seen from a distance. Within the study area, Mount Diablo and its foothills, Brushy Peak, and Cedar Mountain are all visible from a distance. Other visual resources within the viewshed include vineyards, Arroyo Mocho, and Arroyo del Valle (2-33). Views within the project area are limited by urban structures, quarry mining, and vegetation, except in more open areas along the southern portion of the project (2-34).
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	N	This segment of SR 84 is not a California Scenic Highway (2-33).
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	LTS	No substantial visual impacts are expected to occur to adjacent properties or recreation trail users. The project would widen an existing roadway and add landscaping. New median barriers in southern portion of the project would not block residents’ views of scenic resources and would be given textural and/or color treatment to avoid impacts on residents’ views of SR 84. This information has been added to Sections 2.8.3 and 2.8.4.
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	LTS	This topic was addressed in the Visual Resources Impact Report (Haygood and Associates 2007). Existing traffic signals and lights at intersections would be moved to the widened edge of the roadway. In most cases, these light sources would be out of sight lines or screened from residents’ views by trees, berms, or soundwalls. Additional lighting is not proposed. Section 2.8.3 of the FED has been revised to include this information. The need for additional landscaping to screen residences from headlight glare will be evaluated during development of the landscaping plan in the final project design phase. This information has been added to Section 2.8.4 of the FED.

LTS = Less than significant; LTS-M = Less than significant with mitigation incorporated; N = No impact

**Table D-1 Discussion of CEQA Checklist Responses**

Resource Area	Impact	Explanation (DED Page Reference)
<b>AGRICULTURE RESOURCES</b>		
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	N	Of the total acreage in the study area, 0.33 acre is designated as Prime Farmland and 6.4 acres are designated as Farmland of Statewide or Local Importance (2-18). As a result of changes to the project design (see Section 1.5.2), no cultivated farmland would be affected by the project. This information has been added to Section 2.3.3 of the FED.
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	LTS-M	The DED stated that up to 6.1 acres of potentially affected farmland is within a Tri-Valley Conservancy easement and is under a Williamson Act contract (2-19, 2-20). As a result of changes to the project design (see Section 1.5.2), potential impacts to farmland have been avoided.  The project would acquire 0.04 acre along SR 84 just south of Vineyard Avenue that is in Conservancy stewardship, but the land is not being cultivated and is planned for future development. No impacts would occur to cultivated agricultural lands under Tri-Valley Conservancy agricultural easements or Williamson Act contracts. This information has been added to Section 2.3.3 of the FED. Compensation is identified in Section 2.3.4.
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use?	N	Farmland impacts from the project would be limited to those described above.
<b>AIR QUALITY</b>		
a) Conflict with or obstruct implementation of the applicable air quality plan?	LTS	The project conforms to the applicable Regional Transportation Plan (the Transportation 2030 Plan) and Transportation Improvement Program (2-69). The Transportation 2030 Plan was found to conform to the State Implementation Plan. The project has therefore been accounted for and assessed in regional air quality planning (2-71). The project would not conflict with an air quality plan.
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	LTS	The project would not cause a violation of any air quality standard or contribute substantially to an air quality violation. Additional traffic on SR 84 will result in a slight increase in carbon monoxide (2-70, 2-71) and "mobile source air toxics" (MSATs) (2-74), but modeled worst-case levels are well below all applicable standards. Standard measures to minimize construction-related air quality effects are included in Section 2.14.6 (2-74, 2-75).

LTS = Less than significant; LTS-M = Less than significant with mitigation incorporated; N = No impact

**Table D-1 Discussion of CEQA Checklist Responses**

Resource Area	Impact	Explanation (DED Page Reference)
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable Federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	LTS	<p>The project region is in nonattainment of State and Federal ozone standards and State particulate matter standards.</p> <p>Ozone is considered on a regionwide basis. The project is included in regional transportation planning, which has been found to conform (2-69). The project is not expected to result in a cumulatively considerable net increase in ozone.</p> <p>The proposed project is not expected to affect microscale particulate levels or contribute to a PM<sub>10</sub> hot spot that would cause or contribute to violations of the Federal PM<sub>10</sub> standard (2-71). Standard measures to minimize construction-related air quality effects are included in Section 2.14.6 (2-74, 2-75). In 2006, the USEPA lowered the Federal 24-hour PM<sub>2.5</sub> standard from 65 µg/m<sup>3</sup> to 35 µg/m<sup>3</sup>. Attainment of the PM<sub>2.5</sub> standard is based on a three-year average. The USEPA is required to designate the attainment status of the Bay Area for the new standard by December 2009. This information has been added to Section 2.14.2.2 of the FED.</p>
d) Expose sensitive receptors to substantial pollutant concentration?	LTS	<p>As discussed in the Air Quality Analysis (Baseline Environmental Consulting 2006), the nearest sensitive receptors for the project are the residential neighborhoods east of SR 84 between Jack London Blvd. and Alden Lane and west of SR 84 near the SR 84/Vallecitos Road intersection. Three parks are also within 0.25 mile of the project: Pleasure Island Park, Ida Holm Park, and Ruby Hill Park. No schools or hospitals are located within a 0.25-mile radius. The Oaks Business Park is being constructed adjacent to SR 84 between Discovery Drive and Jack London Blvd.</p> <p>The project would not result in CO or PM<sub>10</sub> hot spots (2-70, 2-71) and would not expose sensitive receptors to substantial pollution concentrations. Standard measures to minimize construction-related air quality effects are included in Section 2.14.6 (2-74, 2-75).</p>
e) Create objectionable odors affecting a substantial number of people?	N	<p>SR 84 is an existing roadway, and the project would not introduce odors that are not already associated with existing traffic. Recently implemented USEPA standards for diesel fuels and new diesel engines require substantial reductions in sulfur content and emissions. As sulfur contributes to the distinctive odor of diesel fumes, future traffic-related odors may decrease.</p>
<b>BIOLOGICAL RESOURCES</b>		
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	LTS	<p>Project construction would disturb grassland but would not result in a substantial loss of this habitat type. Construction at the arroyo crossings would have minimal long-term impacts. (2-95).</p> <p>The project may affect, but is not likely to adversely affect, California red-legged frog, California tiger salamander, and San Joaquin kit fox. (2-102). To ensure that construction activities do not affect these species, avoidance measures are listed in Section 2.19.4 (2-102, 2-103). No permanent impacts should occur to other special-status species because they were determined to not be present or would not be affected by the project (2-101).</p>

LTS = Less than significant; LTS-M = Less than significant with mitigation incorporated; N = No impact

**Table D-1 Discussion of CEQA Checklist Responses**

Resource Area	Impact	Explanation (DED Page Reference)
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	LTS	The project would not affect any sensitive habitats identified in plans, policies, or regulations.  The project would affect up to 26 oaks. Replacement planting based on agreed-upon ratios will be implemented (2-87). The project would also affect some roadside vegetation determined by USFWS to be potential habitat for endangered species, and measures will be implemented to avoid or minimize potential effects. This information has been added to Section 2.19.4 of the FED.
c) Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	LTS	The project would affect an estimated 0.136 acre of wetlands and 0.029 acre of nonwetland waters of the United States. Measures to avoid/minimize construction impacts and compensate for the loss of jurisdictional waters are outlined in FED Section 2.17.4.
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	LTS	Neither Arroyo del Valle nor Arroyo Mocho support anadromous fisheries because of downstream impediments (2-94). The project alignment would not introduce any new barriers to wildlife movement (2-95).
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	LTS	Oak trees are protected under the Alameda County Tree Ordinance No. 0-2004-23 (Chapter 12.11 of Title 12); the City of Pleasanton Heritage Tree Ordinance (Chapter 17.16 of the Municipal Code); and the City of Livermore Street Trees, Shrubs and Ancestral Trees Ordinance (Chapter 12.20 of the Municipal Code). (SR 84 Natural Environment Study, URS 2007) Although local ordinances do not apply to State-owned right-of-way (DED 1-18), measures proposed to compensate for the loss of native oaks (2-87) are consistent with the goal of oak preservation.
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	LTS	The project would not conflict with the provisions of a habitat conservation plan or natural community conservation plan.
<b>CULTURAL RESOURCES</b>		
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	N	No historical resources were identified that would be affected by the project (2-41, 2-42).
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	N	No archaeological resources were identified that would be affected by the project (2-40).
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	N	No paleontological resources were identified during a review of environmental studies for projects surrounding the proposed project area. No evidence of paleontological resources was observed during field studies (2-1).

LTS = Less than significant; LTS-M = Less than significant with mitigation incorporated; N = No impact

**Table D-1 Discussion of CEQA Checklist Responses**

Resource Area	Impact	Explanation (DED Page Reference)
d) Disturb any human remains, including those interred outside of formal cemeteries?	N	No known ethnographic or contemporary Native American resources have been identified in or adjacent to the area of potential effect (2-41). The potential for the presence of buried prehistoric archaeological resources appears to be low (2-41).
<b>GEOLOGY AND SOILS</b>		
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	LTS	See below.
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	LTS	There is no evidence that the project is located on identified active faults. The Livermore fault lies approximately 110 yards north of the project. The Livermore fault is not zoned as an Alquist-Priolo fault hazard. The probability of an earthquake on the Livermore fault is considered very low (2-55).
ii) Strong seismic ground shaking?	LTS	Elements of the project such as the bridges at stream crossings could be exposed to strong ground shaking (2-57). The design and construction measures listed in Section 2.12.4 would avoid or minimize these effects (2-58, 2-59).
iii) Seismic-related ground failure, including liquefaction?	LTS	The potential for liquefaction at the project site is considered low because the project is in an area of stiff cohesive soils. A potential exists for bridge structure damage at stream crossings after completion of the reclamation plan for the gravel mining property (2-57). The design and construction measures listed in Section 2.12.4 would avoid or minimize these effects (2-58, 2-59).
iv) Landslides?	LTS	The majority of the project is on flat topography, and landslides do not appear to pose a substantial hazard during the lifetime of the project (2-57). The design and construction measures listed in Section 2.12.4 would avoid or minimize any effects (2-58, 2-59).
b) Result in substantial soil erosion or the loss of topsoil?	LTS	During construction, there is the risk of temporary adverse impacts due to increased erosion that could eventually be transported into nearby creeks and storm drains with stormwater runoff (2-50). Implementation of landscaping and other erosion control measures described in Section 2.11.4 would avoid or minimize this effect (2-51–2-53).
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	LTS	One soil in the project alignment, Zamora silt loam, has a very high erosion hazard when disturbed (2-54, 2-55). Project design will include geotechnical review, which provides recommendations for foundation and roadway construction.
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	LTS	Highly expansive soils in the southern part of the project area may require replacement or treatment during construction. Proper roadway design and construction techniques would be implemented to minimize the risk of damage from expansive soils (2-57).

LTS = Less than significant; LTS-M = Less than significant with mitigation incorporated; N = No impact

**Table D-1 Discussion of CEQA Checklist Responses**

Resource Area	Impact	Explanation (DED Page Reference)
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	N	No septic tanks or alternative waste water disposal systems would have to be installed for the project.
<b>HAZARDS AND HAZARDOUS MATERIALS – Would the project:</b>		
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	LTS	SR 84 is an existing roadway, and the project would not create any additional hazards related to the transport, use, or disposal of hazardous materials.
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	LTS	Agricultural land uses and a former gasoline tank near the Isabel Avenue/Vineyard Avenue intersection may have the potential to affect the soils at the project. A potential also exists for aerially deposited lead from vehicle exhaust to be present in shallow soils near roadway shoulders along SR 84. Avoidance and minimization measures provided in Section 2.13.4 (2-62) will be followed to avoid improper handling or disposal of contaminated materials.
c) Emit hazardous emissions or handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school?	N	There are no schools within 0.25 mile of SR 84.
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	N	Five sites within the study area were identified in regulatory agency databases, but none are currently under regulatory oversight (2-61).
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	N	The project would not affect an existing airport. Although the Livermore Municipal Airport is less than 2 miles from the northern project limits, the project would not result in a safety hazard for people residing or working in the project area.
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	N	There are no private airstrips in the project vicinity.
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	N	The project would not impair implementation of or physically interfere with the City of Livermore Comprehensive Emergency Management Plan or other local or regional emergency plans. Improved traffic with the project may improve emergency response times.
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	N	SR 84 is an existing roadway and would not expose people or structures to the risk of wildland fires.

LTS = Less than significant; LTS-M = Less than significant with mitigation incorporated; N = No impact

**Table D-1 Discussion of CEQA Checklist Responses**

Resource Area	Impact	Explanation (DED Page Reference)
<b>HYDROLOGY AND WATER QUALITY</b> - Would be the project:		
a) Violate any water quality standards or waste discharge requirements?	LTS	No violation of a water quality standard is expected. Project construction activities have the potential to increase suspended solids, dissolved solids, and organic pollutants in nearby creeks, especially during heavy rainfall. Accidental spills or releases of fuels, oils, or other potentially toxic materials and possibly sanitary wastes are a standard concern during construction activities. An accidental release of these materials may pose a threat to water quality if contaminants enter storm drains, Arroyo Mocho, or Arroyo del Valle (2-50). Section 2.11.4 lists Caltrans construction best management practices that would avoid or minimize these impacts (2-51–2-53).
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	N	The project would not affect groundwater supplies or recharge.
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	LTS	The existing roadway of SR 84 would be widened to accommodate additional lanes, but the widening would maintain existing drainage patterns (2-49). During construction, there is the risk of temporary adverse impacts due to increased erosion that could eventually be transported into nearby creeks and storm drains with stormwater runoff (2-50). Section 2.11.4 lists Caltrans construction best management practices that would avoid or minimize these impacts (2-51–2-53).
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	LTS	As stated above, the existing roadway of SR 84 would be widened to accommodate additional lanes, but the widening would maintain existing drainage patterns (2-49). Additional flows from the widened roadway would not impact the hydraulic capacity of the Arroyo del Valle channel during a 100-year flood event. The pumping station was designed to accommodate additional flows from the widened SR 84 facility. The additional pump discharge flows would have an insignificant impact to the hydraulic capacity of the Arroyo Mocho channel during a 100-year flood event (2-45). The project would not significantly increase the existing depth or limits of flooding (2-46).
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	LTS	Stormwater runoff volumes from the project are expected to increase due to the increase in impervious surfaces. However, this additional runoff is not anticipated to exceed the capacity of drainage systems in the area (2-50). The project would include new roadside treatments designed to effectively remove sediments and the associated nonpoint-source pollutants from runoff in the project right-of-way (see Section 2.11.4, 2-51–2-53).

LTS = Less than significant; LTS-M = Less than significant with mitigation incorporated; N = No impact

**Table D-1 Discussion of CEQA Checklist Responses**

Resource Area	Impact	Explanation (DED Page Reference)
f) Otherwise substantially degrade water quality?	LTS	In general, heavy metals associated with vehicle tire and brake wear, air emissions, oil, and grease are the primary toxic pollutants associated with existing or proposed transportation corridors (2-50). As stated above, Section 2.11.4 (2-51–2-53) proposes construction and long-term measures to avoid or minimize water quality effects from vehicles.
g) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	N	The project does not include housing.
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	LTS	The project would not encroach into the floodplains of Arroyo del Valle and Arroyo Mocho (2-45). The project would not change the flood control facilities of Arroyo Mocho and Arroyo del Valle. Widening of the existing bridges over these water bodies would not significantly impact flood elevations, and no significant fill would be placed into the defined floodplain (2-46).
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	LTS	The project would not interrupt emergency vehicles or evacuation routes, impact flood elevations by placing structures in a floodplain, or otherwise create a flood risk (2-46).
j) Inundation by seiche, tsunami, or mudflow?	N	These events are not applicable to the project area.
<b>LAND USE AND PLANNING</b>		
a) Physically divide an established community?	N	SR 84 is an existing roadway, and all signal intersections will be maintained.
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	N	The project would not conflict with a plan, policy, or regulation adopted to avoid or mitigate an environmental effect.
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	LTS	The project would not conflict with the provisions of a habitat conservation plan or natural community conservation plan.
<b>MINERAL RESOURCES - Would the project:</b>		
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	LTS	The project would require acquisition of partial quarry parcels to widen SR 84 and construct the consolidated quarry access at Concannon Boulevard. One partial parcel (0.52 acre) is within mining limits. Because the loss of mineral resources would be limited to 0.52 acre, the partial parcel acquisition is not expected to result in the loss of availability of a mineral resource of value to the region and state. This information has been added to Section 2.4.2 of the FED.

LTS = Less than significant; LTS-M = Less than significant with mitigation incorporated; N = No impact

**Table D-1 Discussion of CEQA Checklist Responses**

Resource Area	Impact	Explanation (DED Page Reference)
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	LTS-M	As stated above, the project would acquire a 0.52 acre partial parcel that is within mining limits. The partial parcel acquisition is not expected to result in a significant loss of a locally important mineral resource recovery site delineated on a plan. Compensation to quarry owners to offset the value of the lost mineral resources and a land swap are proposed to mitigate the loss. See Sections 2.4.1 and 2.4.2 of the FED.
<b>NOISE - Would the project:</b>		
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	LTS	After completion, the project would not expose residents to noise levels approaching or exceeding Federal noise abatement criteria (NAC; 2-80). Some recreation facilities (two trail segments and a recreation area at Ruby Hill) would have noise levels approaching or exceeding the NAC (2-80–2-84). Construction activities will be limited to the hours of 8:00 AM to 5:00 PM in compliance with Livermore and Pleasanton noise ordinances.
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	N	The project would not generate excessive groundborne vibrations or noise levels.
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	LTS	Generally, the project is expected to increase noise levels in the study area over the existing condition by a perceptible amount ranging from 1 to 6 dBA, but this increase would not be considered substantial under the established criteria (2-80)
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	LTS	Construction activities may result in temporary increases above the ambient noise levels (2-80), but contractors will be required to observe construction noise abatement measures (2-85).
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	N	Although the Livermore Municipal Airport is less than 2 miles from the northern project limits, the project would not expose people residing or working in the project area to excessive noise levels.
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	N	No private airstrips are in the project vicinity.
<b>POPULATION AND HOUSING - Would the project:</b>		
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	N	The project would not change the current land use designations in the project corridor nor create a new transportation corridor or access to areas not already served by the existing roadway network (2-17).
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	N	The project would not displace any existing housing.

LTS = Less than significant; LTS-M = Less than significant with mitigation incorporated; N = No impact

**Table D-1 Discussion of CEQA Checklist Responses**

<b>Resource Area</b>	<b>Impact</b>	<b>Explanation (DED Page Reference)</b>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	N	The project would not displace people.
<b>PUBLIC SERVICES -</b>		
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:		
Fire protection?	N	This roadway improvement project would not affect fire protection.
Police protection?	N	This roadway improvement project would not affect police protection.
Schools?	N	This roadway improvement project would not affect schools.
Parks?	LTS	The project would require the temporary closure of the Isabel Trail during some construction periods but would have no permanent impacts on any of the public parks or recreation facilities in the study area (2-13). The City of Livermore has concurred with the need for temporary trail closures (see Appendix G).
Other public facilities?	N	NA
<b>RECREATION -</b>		
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	N	This roadway improvement project would not trigger increased use of recreation facilities.
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	LTS	The Isabel Trail will be realigned where it fronts the former Orchid Ranch, and ultimately an extension of the trail from Alden Lane to Vineyard Avenue is planned, which would benefit this facility (2-13).
<b>TRANSPORTATION/TRAFFIC -</b>		
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	LTS	By adding lanes, the project would accommodate future traffic increases over the No Build condition (1-8) but is consistent with capacity improvements to the immediate north and south of the project limits (the I-580 Isabel Avenue Interchange Project and the Pigeon Pass Safety Project) and with other regional traffic improvements (1-8, 1-9).

LTS = Less than significant; LTS-M = Less than significant with mitigation incorporated; N = No impact

**Table D-1 Discussion of CEQA Checklist Responses**

<b>Resource Area</b>	<b>Impact</b>	<b>Explanation (DED Page Reference)</b>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	LTS	This State project would improve levels of service at most street intersections and freeway ramp intersections in the project area (2-30–2-32).
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	N	The project would not affect air traffic patterns.
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incomplete uses (e.g., farm equipment)?	LTS	The project design was modified to eliminate features that would create safety hazards for drivers (1-14, 1-15).
e) Result in inadequate emergency access?	N	The project will avoid impacts to emergency services (2-26).
f) Result in inadequate parking capacity?	N	The project will not affect parking.
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	N	The project is consistent with the MTC Regional Bicycle Plan for the San Francisco Bay Area (MTC 2001) and the Alameda Countywide Bicycle Plan (ACCMA 2001), as the design would include features that are identified in these plans (1-10).
<b>UTILITY AND SERVICE SYSTEMS</b>		
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	N	The project would comply with all permit requirements of the Department's statewide NPDES permit, including wastewater treatment requirements (2-47).
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	N	The project would not require construction of new treatment facilities.
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	LTS	Stormwater runoff volumes from the project are expected to increase due to the increase in impervious surfaces. However, this additional runoff is not anticipated to exceed the capacity of drainage systems in the area (2-50). The project includes stormwater treatment measures (2-51–2-53).
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	N	The project would not require new or expanded water entitlements.
e) Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	N	The project would not affect wastewater volumes.

LTS = Less than significant; LTS-M = Less than significant with mitigation incorporated; N = No impact

**Table D-1 Discussion of CEQA Checklist Responses**

Resource Area	Impact	Explanation (DED Page Reference)
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	N	Project operation would not require solid waste disposal. Construction waste would be disposed of at a certified facility based on the waste type.
g) Comply with Federal, state, and local statutes and regulations related to solid waste?	N	The project would comply with statutes and regulations related to solid waste.
<b>MANDATORY FINDINGS OF SIGNIFICANCE -</b>		
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, or cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	LTS	The project would remove 26 native oak trees to accommodate roadway widening in the southern project limits and proposes to replant 58 oaks to replace them (2-87).  Habitat for the California red-legged frog and California tiger salamander occurs in the vicinity of the project and would be mostly avoided by the proposed roadway alignment. San Joaquin kit fox has a low potential to occur in the area and should not be affected by the project. Minor encroachment into roadside habitat identified by USFWS will be compensated in accordance with the Biological Opinion for the project. To ensure that construction activities do not otherwise affect these species, avoidance measures are listed in Section 2.19.4 (2-102).
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	LTS	The project together with other development in the vicinity would have low impacts to wetlands/other water of the U.S. and natural habitats. With required avoidance measures and replanting/landscaping, cumulative impacts to biological resources would be offset (2-107).
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	LTS	As detailed in this table, the project would have no significant effect on air quality, emergency services, farmlands, geology and soils, growth, hazardous waste and materials, land use, noise, water quality and stormwater runoff, traffic and transportation, utilities, and visual/aesthetics resources. The proposed project would have no significantly adverse effect on mineral or biological resources.

LTS = Less than significant; LTS-M = Less than significant with mitigation incorporated; N = No impact

# **Appendix E** Glossary of Technical Terms

---

This appendix briefly explains the technical terms and names used in this IS/EA. A list of acronyms appears directly before Chapter 1.

Best Management Practice (BMP)	Any program, technology, process, operating method, measure or device that controls, prevents, removes or reduces pollution.
Basin Plan	A specific plan for control of water quality within one of the nine hydrologic basins of the State under the regulation of a Water Quality Control Board.
Cumulative effects	Project effects that are related to other actions with individually insignificant but cumulatively significant impacts.
Decibel	A numerical expression of the relative loudness of a sound.
Encroachment (floodplain)	An action within the limits of the 100-year floodplain.
Endangered	Plant or animal species that are in danger of extinction throughout all or a significant portion of its range.
Erosion	The wearing away of the land surface by running water, wind, ice, or other geological agents.
Federal Register	Federal publication that provides official notice of Federal administrative hearings and issuance of proposed and final Federal administrative rules and regulations.
Floodplain (100-year)	The area subject to flooding by a flood or tide that has a 1 percent chance of being exceeded in any given year.
FONSI	Finding of No Significant Effect, issued by FHWA upon approval of the NEPA review process
Habitat	The place or type of site where a plant or animal naturally or normally lives and grows.
Hectare	A unit of surface measure in the metric system, equal to 10,000 square meters.
Initial Study (IS)	Environmental review document prepared to comply with CEQA

Initial Site Assessment (ISA)	A Department of Transportation term for an initial study to determine hazardous waste issues on a project.
$L_{eq}$	A unit used for evaluation of sound impacts, $L_{eq}$ is the measurement of the fluctuating sound level received by a receptor averaged over a time interval (usually 1 hour).
Level of Service (LOS)	A measurement of capacity of a roadway.
Mitigation	Compensation for an impact by replacement or provision of substitute resources or environments. Mitigation can include avoiding an impact by not taking a certain action, minimizing impacts by limiting the degree of an action, or rectifying an impact by repairing or restoring the affected environment.
Negative Declaration (ND)	Issued upon approval of the environmental review process under CEQA
NPDES	National Pollutant Discharge Elimination System. A permit regulated by the Regional Water Quality Control Board that is required if more than 1 acre of original ground is graded. One condition of this permit is that the contractor must submit a Storm Water Pollution Prevention Plan (SWPPP), which is similar to the Water Pollution Control Plan required by Caltrans' Standard Specification 7-1.01G.
Practicable	An action that is capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purposes.
Receptors	Term used in air quality and noise studies that refers to houses or businesses that could be affected by a project.
Regulatory agency	An agency that has jurisdiction by law.
Responsible agency	A public agency other than the Lead Agency that has responsibility for carrying out or approving a project under CEQA.
Right-of-way	A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes.

Riparian	Pertaining to the banks and other adjacent terrestrial (as opposed to aquatic) environs of freshwater bodies, watercourses, estuaries, and surface-emergent aquifers, whose transported freshwater provides soil moisture sufficient in excess of that available through local precipitation to potentially support the growth of vegetation.
RTP	Regional Transportation Plan, prepared by the Metropolitan Transportation Commission (MTC), the regional agency responsible for transportation planning and funding.
Special-status species	Plant or animal species that are either (1) Federally listed, proposed for or a candidate for listing as threatened or endangered; (2) bird species protected under the Federal Migratory Bird Treaty Act; (3) protected under State endangered species laws and regulations, plant protection laws and regulations, Fish and Game codes, or species of special concern listings and policies; (4) recognized by national, State, or local environmental organizations (e.g., California Native Plant Society).
STIP	The State Transportation Improvement Program, updated every 2 years, is the California Transportation Commission's priorities for improvements on and off the State highway system.
SWPPP	A Storm Water Pollution Prevention Plan is prepared to evaluate sources of discharges and activities that may affect stormwater runoff, and implement measures or practices to reduce or prevent such discharges.
Threatened	A species that is likely to become endangered in the foreseeable future in the absence of special protection.
Waters of the United States	As defined by the USACE in 33 Code of Federal Regulations 328.3(a):  <ol style="list-style-type: none"><li>1. All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;</li><li>2. All interstate waters including interstate wetlands;</li><li>3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction</li></ol>

of which could affect interstate or foreign commerce, including any such waters:

- (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
  - (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - (iii) Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundment of waters otherwise defined as waters of the United States under this definition;
  5. Tributaries of waters identified in paragraphs 1-4;
  6. The territorial seas;
  7. Wetlands adjacent to waters (waters that are not wetlands themselves) identified in paragraphs 1-6.

Wetlands

When used in a formal context, such as in this IS/EA, wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances will support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas [33 CFR 328.3(b)].

# Appendix F Title VI Policy Statement

---

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

ARNOLD SCHWARZENEGGER, Governor

**DEPARTMENT OF TRANSPORTATION**  
OFFICE OF THE DIRECTOR  
1120 N STREET  
P. O. BOX 942873  
SACRAMENTO, CA 94273-0001  
PHONE (916) 654-5266  
FAX (916) 654-6608  
TTY (916) 653-4086



*Flex your power!  
Be energy efficient!*

January 14, 2005

## TITLE VI POLICY STATEMENT

The California Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, and age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

A handwritten signature in black ink that reads "Will Kempton".

WILL KEMPTON  
Director



## **Appendix G** Consultation and Coordination

---

This appendix contains relevant letters and records of consultation conducted to date with agencies relevant to the project development and environmental review process. The following briefly summarizes the correspondence.

### ***U.S. Fish and Wildlife Service (USFWS)***

- USFWS provided a requested list of endangered and threatened species recorded in the area of the U.S. Geological Survey quadrangle maps that cover the project area.

### ***City of Livermore***

- The City of Livermore provided concurrence that the project would have no adverse impact on the Isabel Trail under Section 4(f) of the Department of Transportation Act.



**LIVERMORE (446A)**

**Listed Species**

**Invertebrates**

- Branchinecta longiantenna* - longhorn fairy shrimp (E)  
*Branchinecta lynchi* - Critical habitat, vernal pool fairy shrimp (X)  
*Branchinecta lynchi* - vernal pool fairy shrimp (T)

**Fish**

- Hypomesus transpacificus* - delta smelt (T)  
*Oncorhynchus mykiss* - Central California Coastal steelhead (T)  
*Oncorhynchus mykiss* - Central Valley steelhead (T)

**Amphibians**

- Ambystoma californiense* - California tiger salamander (T)  
*Rana aurora draytonii* - California red-legged frog (T)

**Reptiles**

- Masticophis lateralis euryxanthus* - Alameda whipsnake (T)

**Birds**

- Haliaeetus leucocephalus* - bald eagle (T)  
*Sterna antillarum* (=albifrons) *browni* - California least tern (E)

**Mammals**

- Vulpes macrotis mutica* - San Joaquin kit fox (E)

**Plants**

- Cordylanthus palmatus* - palmate-bracted bird's-beak (E)

**Proposed Species**

**Amphibians**

- Ambystoma californiense* - Critical habitat, California tiger salamander (Proposed) (PX)  
*Rana aurora draytonii* - Critical habitat, California red-legged frog (Proposed) (PX)

**Candidate Species**

**Fish**

- Oncorhynchus tshawytscha* - Central Valley fall/late fall-run chinook salmon (C)

**Species of Concern**

**Invertebrates**

- Hydrochara rickseckeri* - Ricksecker's water scavenger beetle (SC)  
*Hygrotus curvipes* - curved-foot hygrotus diving beetle (SC)  
*Linderiella occidentalis* - California linderiella fairy shrimp (SC)

## **Fish**

*Pogonichthys macrolepidotus* - Sacramento splittail (SC)

*Spirinchus thaleichthys* - longfin smelt (SC)

## **Amphibians**

*Rana boylei* - foothill yellow-legged frog (SC)

## **Reptiles**

*Anniella pulchra pulchra* - silvery legless lizard (SC)

*Clemmys marmorata marmorata* - northwestern pond turtle (SC)

*Clemmys marmorata pallida* - southwestern pond turtle (SC)

*Masticophis flagellum ruddocki* - San Joaquin coachwhip (=whipsnake) (SC)

*Phrynosoma coronatum frontale* - California horned lizard (SC)

## **Birds**

*Agelaius tricolor* - tricolored blackbird (SC)

*Amphispiza belli belli* - Bell's sage sparrow (SC)

*Athene cunicularia hypugaea* - western burrowing owl (SC)

*Baeolophus inornatus* - oak titmouse (SLC)

*Buteo regalis* - ferruginous hawk (SC)

*Calypte costae* - Costa's hummingbird (SC)

*Carduelis lawrencei* - Lawrence's goldfinch (SC)

*Chaetura vauxi* - Vaux's swift (SC)

*Charadrius montanus* - mountain plover (SC)

*Cypseloides niger* - black swift (SC)

*Elanus leucurus* - white-tailed (=black shouldered) kite (SC)

*Empidonax traillii brewsteri* - little willow flycatcher (CA)

*Falco peregrinus anatum* - American peregrine falcon (D)

*Lanius ludovicianus* - loggerhead shrike (SC)

*Melanerpes lewis* - Lewis' woodpecker (SC)

*Numenius americanus* - long-billed curlew (SC)

*Selasphorus rufus* - rufous hummingbird (SC)

*Selasphorus sasin* - Allen's hummingbird (SC)

*Toxostoma redivivum* - California thrasher (SC)

## **Mammals**

*Corynorhinus (=Plecotus) townsendii townsendii* - Pacific western big-eared bat (SC)

*Eumops perotis californicus* - greater western mastiff-bat (SC)

*Myotis ciliolabrum* - small-footed myotis bat (SC)

*Myotis evotis* - long-eared myotis bat (SC)

*Myotis thysanodes* - fringed myotis bat (SC)

*Myotis volans* - long-legged myotis bat (SC)

*Myotis yumanensis* - Yuma myotis bat (SC)

*Neotoma fuscipes annectens* - San Francisco dusky-footed woodrat (SC)

## **Plants**

- Atriplex joaquiniana* - San Joaquin spearscale (=saltbush) (SC)  
*Balsamorhiza macrolepis* var. *macrolepis* - big-scale (=California) balsamroot (SLC)  
*Blepharizonia plumosa* ssp. *plumosa* - big tarplant (SC)  
*Hemizonia parryi* ssp. *congdonii* - Congdon's tarplant (SC)  
*Trifolium depauperatum* var. *hydrophilum* - water sack (=saline) clover (SC)

## **ALAMEDA COUNTY**

### **Listed Species**

#### **Invertebrates**

- Branchinecta longiantenna* - Critical habitat, longhorn fairy shrimp (X)  
*Branchinecta longiantenna* - longhorn fairy shrimp (E)  
*Branchinecta lynchi* - Critical habitat, vernal pool fairy shrimp (X)  
*Branchinecta lynchi* - vernal pool fairy shrimp (T)  
*Euphydryas editha bayensis* - bay checkerspot butterfly (T)  
*Lepidurus packardi* - Critical habitat, vernal pool tadpole shrimp (X)  
*Lepidurus packardi* - vernal pool tadpole shrimp (E)  
*Speyeria callippe callippe* - callippe silverspot butterfly (E)

#### **Fish**

- Eucyclogobius newberryi* - tidewater goby (E)  
*Hypomesus transpacificus* - Critical habitat, delta smelt (X)  
*Oncorhynchus kisutch* - coho salmon - central CA coast (E)  
*Oncorhynchus mykiss* - Central California Coastal steelhead (T)  
*Oncorhynchus tshawytscha* - Central Valley spring-run chinook salmon (T)  
*Oncorhynchus tshawytscha* - Critical habitat, winter-run chinook salmon (X)  
*Oncorhynchus tshawytscha* - winter-run chinook salmon, Sacramento River (E)

#### **Amphibians**

- Ambystoma californiense* - California tiger salamander (T)  
*Rana aurora draytonii* - California red-legged frog (T)

#### **Reptiles**

- Masticophis lateralis euryxanthus* - Alameda whipsnake (T)

#### **Birds**

- Haliaeetus leucocephalus* - bald eagle (T)  
*Pelecanus occidentalis californicus* - California brown pelican (E)  
*Rallus longirostris obsoletus* - California clapper rail (E)  
*Sterna antillarum* (=albifrons) *browni* - California least tern (E)

#### **Mammals**

- Reithrodontomys raviventris* - salt marsh harvest mouse (E)  
*Vulpes macrotis mutica* - San Joaquin kit fox (E)

## **Plants**

*Amsinckia grandiflora* - large-flowered fiddleneck (E)

*Arctostaphylos pallida* - pallid manzanita (=Alameda or Oakland Hills manzanita) (T)

*Clarkia franciscana* - Presidio clarkia (E)

*Cordylanthus palmatus* - palmate-bracted bird's-beak (E)

*Lasthenia conjugens* - Contra Costa goldfields (E)

*Lasthenia conjugens* - Critical habitat, Contra Costa goldfields (X)

## **Proposed Species**

### **Fish**

*Acipenser medirostris* - green sturgeon (P)

*Oncorhynchus mykiss* - Critical habitat, Central California coastal steelhead (Proposed) (PX)

*Oncorhynchus mykiss* - Critical habitat, Central Valley steelhead (Proposed) (PX)

*Oncorhynchus tshawytscha* - Critical Habitat, Central Valley spring-run chinook (Proposed) (PX)

### **Amphibians**

*Ambystoma californiense* - Critical habitat, CA tiger salamander (Proposed) (PX)

*Rana aurora draytonii* - Critical habitat, California red-legged frog (Proposed) (PX)

## **Candidate Species**

### **Fish**

*Oncorhynchus tshawytscha* - Central Valley fall/late fall-run chinook salmon (C)

*Oncorhynchus tshawytscha* - Critical habitat, Central Valley fall/late fall-run chinook (C)

## **Species of Concern**

### **Invertebrates**

*Adela oplerella* - Opler's longhorn moth (SC)

*Helminthoglypta nickliniana bridgesi* - Bridges' Coast Range shoulderband snail (SC)

*Hydrochara rickseckeri* - Ricksecker's water scavenger beetle (SC)

*Hygrotus curvipes* - curved-foot hygrotus diving beetle (SC)

*Linderiella occidentalis* - California linderiella fairy shrimp (SC)

*Microcina lumi* - Fairmont (=Lum's) microblind harvestman (SC)

*Nothochrysa californica* - San Francisco lacewing (SC)

### **Fish**

*Lampetra ayresi* - river lamprey (SC)

*Lampetra tridentata* - Pacific lamprey (SC)

*Pogonichthys macrolepidotus* - Sacramento splittail (SC)

*Spirinchus thaleichthys* - longfin smelt (SC)

### **Amphibians**

*Rana boylei* - foothill yellow-legged frog (SC)

*Spea hammondii* (was *Scaphiopus h.*) - western spadefoot toad (SC)

## Reptiles

- Anniella pulchra pulchra* - silvery legless lizard (SC)
- Clemmys marmorata marmorata* - northwestern pond turtle (SC)
- Clemmys marmorata pallida* - southwestern pond turtle (SC)
- Masticophis flagellum ruddocki* - San Joaquin coachwhip (=whipsnake) (SC)
- Phrynosoma coronatum frontale* - California horned lizard (SC)

## Birds

- Agelaius tricolor* - tricolored blackbird (SC)
- Amphispiza belli belli* - Bell's sage sparrow (SC)
- Athene cunicularia hypugaea* - western burrowing owl (SC)
- Baeolophus inornatus* - oak titmouse (SLC)
- Botaurus lentiginosus* - American bittern (SC)
- Branta canadensis leucopareia* - Aleutian Canada goose (D)
- Buteo regalis* - ferruginous hawk (SC)
- Calidris canutus* - red knot (SC)
- Calypte costae* - Costa's hummingbird (SC)
- Carduelis lawrencei* - Lawrence's goldfinch (SC)
- Chaetura vauxi* - Vaux's swift (SC)
- Charadrius montanus* - mountain plover (SC)
- Contopus cooperi* - olive-sided flycatcher (SC)
- Elanus leucurus* - white-tailed (=black shouldered) kite (SC)
- Empidonax traillii brewsteri* - little willow flycatcher (CA)
- Falco peregrinus anatum* - American peregrine falcon (D)
- Geothlypis trichas sinuosa* - saltmarsh common yellowthroat (SC)
- Lanius ludovicianus* - loggerhead shrike (SC)
- Laterallus jamaicensis coturniculus* - black rail (CA)
- Limosa fedoa* - marbled godwit (SC)
- Melanerpes lewis* - Lewis' woodpecker (SC)
- Melospiza melodia pusillula* - Alameda (South Bay) song sparrow (SC)
- Numenius americanus* - long-billed curlew (SC)
- Plegadis chihi* - white-faced ibis (SC)
- Riparia riparia* - bank swallow (CA)
- Rynchops niger* - black skimmer (SC)
- Selasphorus rufus* - rufous hummingbird (SC)
- Selasphorus sasin* - Allen's hummingbird (SC)
- Sphyrapicus ruber* - red-breasted sapsucker (SC)
- Toxostoma redivivum* - California thrasher (SC)

## Mammals

- Corynorhinus (=Plecotus) townsendii townsendii* - Pacific western big-eared bat (SC)
- Eumops perotis californicus* - greater western mastiff-bat (SC)
- Myotis ciliolabrum* - small-footed myotis bat (SC)
- Myotis evotis* - long-eared myotis bat (SC)
- Myotis thysanodes* - fringed myotis bat (SC)
- Myotis volans* - long-legged myotis bat (SC)

*Myotis yumanensis* - Yuma myotis bat (SC)  
*Neotoma fuscipes annectens* - San Francisco dusky-footed woodrat (SC)  
*Perognathus inornatus* - San Joaquin pocket mouse (SC)  
*Scapanus latimanus parvus* - Alameda Island mole (SC)  
*Sorex vagrans halicoetes* - salt marsh vagrant shrew (SC)

## Plants

*Allium sharsmithae* - Sharsmith's onion (SC)  
*Amsinckia lunaris* - bent-flowered fiddleneck (SLC)  
*Astragalus tener* var. *tener* - alkali milk-vetch (SC)  
*Atriplex cordulata* - heartscale (SC)  
*Atriplex depressa* - brittlescale (SC)  
*Atriplex joaquiniana* - San Joaquin spearscale (=saltbush) (SC)  
*Balsamorhiza macrolepis* var. *macrolepis* - big-scale (=California) balsamroot (SLC)  
*Blepharizonia plumosa* ssp. *plumosa* - big tarplant (SC)  
*Campanula exigua* - chaparral harebell (=bellflower) (SLC)  
*Castilleja ambigua* ssp. *ambigua* - salt marsh owl's clover (=johnny-nip) (SLC)  
*Cirsium fontinale* var. *campylon* - Mt. Hamilton thistle (SC)  
*Clarkia concinna* ssp. *automixa* - South Bay clarkia (=Santa Clara red ribbons) (SC)  
*Cordylanthus mollis* ssp. *hispidus* - hispid bird's-beak (SC)  
*Coreopsis hamiltonii* - Mt. Hamilton coreopsis (SC)  
*Cryptantha hooveri* - Hoover's cryptantha (SLC)  
*Deinandra bacigalupii* - Livermore tarplant (SC)  
*Delphinium californicum* ssp. *interius* - interior California (Hospital Canyon) larkspur (SC)  
*Delphinium recurvatum* - recurved larkspur (SC)  
*Dirca occidentalis* - western leatherwood (SLC)  
*Eriogonum caninum* - Tiburon buckwheat (SLC)  
*Eriogonum nudum* var. *decurrens* - Ben Lomond buckwheat (= naked buckwheat) (SC)  
*Eryngium aristulatum* var. *hooveri* - Hoover's button-celery (SC)  
*Eschscholzia rhombipetala* - diamond-petaled California poppy (SC)  
*Fritillaria agrestis* - stinkbells (SLC)  
*Fritillaria falcata* - talus fritillary (SC)  
*Fritillaria liliacea* - fragrant fritillary (= prairie bells) (SC)  
*Galium andrewsii* ssp. *gatense* - serpentine bedstraw (SLC)  
*Helianthella castanea* - Diablo helianthella (=rock-rose) (SC)  
*Hemizonia parryi* ssp. *congdonii* - Congdon's tarplant (SC)  
*Hesperolinon serpentinum* - Napa western flax (SC)  
*Lathyrus jepsonii* var. *jepsonii* - delta tule-pea (SC)  
*Lilaeopsis masonii* - Mason's lilaeopsis (SC)  
*Linanthus grandiflorus* - large-flowered (=flower) linanthus (SC)  
*Monardella villosa* ssp. *globosa* - robust monardella (=robust coyote mint) (SLC)  
*Myosurus minimus* ssp. *apus* - little mousetail (SC)  
*Plagiobothrys diffusus* - San Francisco popcornflower (CA)  
*Spartina foliosa* - Pacific cordgrass (=California cordgrass) (SLC)  
*Streptanthus albidus* ssp. *peramoenus* - most beautiful (uncommon) jewelflower (SC)

*Trifolium depauperatum* var. *hydrophilum* - water sack (=saline) clover (SC)

Key:

- (E) Endangered - Listed (in the Federal Register) as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed (in the Federal Register) for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the [National Marine Fisheries Service](#). Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (CA) Listed by the State of California but not by the Fish & Wildlife Service.
- (D) Delisted - Species will be monitored for 5 years.
- (SC) Species of Concern/(SLC) Species of Local Concern - Other species of concern to the Sacramento Fish & Wildlife Office.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species





426 17th Street  
Suite 100  
Oakland, CA 94612

Telephone:  
510/893-3347

Facsimile:  
510/893-6489

Webpage:  
www.ACTIA2022.com

March 1, 2007

Ken Ross  
City of Livermore  
Public Works Department  
1052 S. Livermore Ave.  
Livermore, CA 94550

Henry Chang, Jr., Chair  
Vice Mayor, City of Oakland

Alice Lai-Bitker, Vice-Chair  
Supervisor, District 3

Tom Bates  
Mayor, City of Berkeley

Keith Carson  
Supervisor, District 5

Mark Green  
Mayor, City of Union City

Scott Haggerty  
Supervisor, District 1

Marshall Kamena  
Mayor, City of Livermore

Janet Lockhart  
Mayor, City of Dublin

Nate Miley  
Supervisor, District 4

Gail Steele  
Supervisor, District 2

Anthony Santos  
Mayor, City of San Leandro

Christine Monsen  
Executive Director

Subject: Route 84 Expressway Widening Project  
Isabel Trail - Concurrence of No Adverse Impact by Project

Dear Mr. Ross,

The Alameda County Transportation Improvement Authority (ACTIA) is requesting the City of Livermore's concurrence that the planned State Route 84 Expressway Widening Project (Project) will not have an adverse effect on the Isabel Trail. This concurrence is necessary for ACTIA and Caltrans to document that the project does not adversely affect any publicly owned recreational lands or other properties that could meet the definition of a resource protected under "Section 4(f)" of the Department of Transportation Act.

The Isabel Trail improvements will involve localized realignment fronting the former Orchid Ranch within the Route 84 Expressway Widening Project, as well as extending the trail facility from Alden Lane to Vineyard Avenue, under a future construction project. The improvements will require temporary closures and detours during construction. For the reasons detailed below, the project will not adversely affect the long-term use of the trail.

The Isabel Trail parallels the east side of Route 84, and is separated from the roadway by a landscaped buffer. The trail is classified as a "Class I" trail in the Circulation Element of the City's General Plan. Fronting the former Orchid Ranch (now a planned residential development), the trail would be realigned to accommodate roadway widening and the landscaped buffer would be replaced, consistent with the rest of the facility. Ultimately, the trail would be extended south from Alden Lane (parallel to SR 84) and connect to the regional east-west trail on Vineyard Avenue, thereby improving the connectivity of the overall trail system in the area. These improvements would be a positive benefit for trail users. Where feasible, the trail will remain operational during construction, however temporary trail closures and detours are anticipated to preserve public safety. Stage construction plans will be developed during the final design stage of the Project to minimize construction impacts to trail users. A public outreach campaign will be

conducted prior to, and during construction to notify trail users of upcoming construction activities.

Section 4(f) applies whenever a federal (U.S. Department of Transportation) action involves the use of a publicly-owned park, recreation area, wildlife or waterfowl refuge, or land from a historic site. ACTIA's consultant has identified that the Isabel Trail could meet the definition of a Section 4(f) property affected by the Project. Furthermore, the Project would have only temporary occupancy (or use) of a portion of the trail corridor during construction, and would involve only the following limited, temporary actions that would not adversely affect its alignment or long term use:

- Temporary closure of segments of the trail would only be during the period that work is performed on or along the trail segments, or there is a safety reason due to an adjacent construction activity. Trail closures will be short in duration compared to the overall construction schedule for the Project.
- Retaining walls will be installed beneath the existing overcrossing of Stanley Boulevard and the Union Pacific Railroad as part of the highway widening improvements. This construction may require localized reconstruction of the path to accommodate the adopted construction methods. Once the retaining walls are constructed and roadway widening completed, the path will be replaced by a new path on the same alignment. Construction activities will require temporary trail access around the construction zone and may require short-term closure of the path at times for safety reasons.
- There will be no permanent changes that will affect the use of the path along its existing alignment. Construction at Stanley Boulevard and the former Orchid Ranch property will require realignment of the trail by several feet to accommodate the expressway widening at those locations, but the trail will ultimately provide the same access and uses as before the project. To the extent feasible, path users will be detoured around construction areas to maintain access.
- The path will be restored to provide the same uses as prior to the Project.
- Slightly longer crosswalks will be installed at Concannon, Stanley, and Jack London Boulevards to accommodate intersection widening. Handicap ramps will also be installed at all crosswalk locations in the project limits.

The Project will be in the vicinity of, but will not affect, other recreational facilities, including the Ida Holm Park, Arroyo Mocho Trail, and Arroyo Del Valle Trail.

We are requesting City of Livermore concurrence with the above findings and signature on this letter to indicate same. This concurrence is necessary to proceed with the review and approval of the environmental document for the project. If you require any additional information on this matter, please contact Michele Bellows. We appreciate your involvement and assistance on this project.

March 1, 2007  
Mr. Ken Ross  
Page 3

Sincerely,



ARTHUR L. DAO  
Deputy Director

URS, ACTIA's consultant, has reviewed the project design and construction with respect to the Department of Transportation ACT, Section 4(f), and has determined that no adverse impact will occur. Either the project avoids Section 4(f) properties altogether or at the Isabel Trail avoids adverse impacts because of the limited duration of the construction activities and temporary alternative access will be provided as feasible.

I concur with the findings of ACTIA's environmental consultant that the Route 84 Expressway Widening Project will have No Adverse Impact to the Isabel Trail.



---

City of Livermore



# Appendix H Minimization and/or Mitigation Summary

---

This appendix summarizes the minimization and/or mitigation measures discussed in Chapter 2. More detail on these measures is included in the resource area discussions in that chapter.

## ***Land Use***

- Parcels or portions of parcels acquired as a result of the project will require compensation, which will be determined during right-of-way acquisition.

## ***Farmlands/Agricultural Lands***

- The affected property owner would be compensated for the loss of the 0.04 acre of land needed for the project, and this will be addressed in the right-of-way process.

## ***Mining Resources***

- Compensation to the quarry mines' owners would offset the value of lost mineral resources. Surplus State right-of-way north of the proposed Concannon Boulevard quarry access is available to offset the loss.

## ***Community Impacts***

- Direct access to SR 84 for Vulcan Materials and Cemex between Stanley and Concannon Boulevards will be replaced with new driveway access from Concannon Boulevard. New access to will also be provided to PG&E, City of Livermore, and Zone 7 Water Agency. This access change is included in the project design.

## ***Utilities and Emergency Services***

- Emergency service providers will be notified of the construction scheduling for the overall project work and utility relocation work.

## ***Visual/Aesthetic Resources***

- Landscaping plans will be developed in detail during the project design phase. Retaining wall color and textures will have a variety of features to soften the impact of the walls in a natural environment. Landscaping will be designed and placed along areas disturbed by construction to screen the roadway and associated vehicles.

- To address public comments received on the DED, a full landscape concept will be considered during the final project design phase.
- The Department will coordinate with Alameda County to ensure landscaping installed by the quarry operators under a separate contract will be harmonious with the highway landscape concept.
- The need for additional landscaping to screen residences from headlight glare will be considered during development of the landscaping plan in the final project design phase.

### ***Cultural Resources***

- If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.
- If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities will cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to California Public Resources Code [PRC] Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission who will then notify the Most Likely Descendent. At this time, the person who discovered the remains will contact the District Environmental Branch so that they may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

### ***Water Quality and Stormwater Runoff***

- The project will adhere to the conditions of the NPDES Permit for Construction Activities (Order No. 9-08-DWQ, NPDES No. CAS000002), which is incorporated by reference to the Caltrans NPDES Permit, Storm Water Discharges from Caltrans Properties, Facilities, and Activities (Order No. 99-06-DWQ, NPDES No. CAS000003). Standard Special Provision 07-345 will be included in the plans, specifications, and estimates for the project to address water pollution control work and the implementation of a SWPPP during construction.
- Temporary construction BMPs will be determined by Department contractors and would implement meet Best Available Technology/Best Conventional Technology for construction projects.

- Construction BMPs are identified in the project's Stormwater Data Report and will be set forth in the project's SWPPP.
- Erosion control measures will be developed as part of the SWPPP and applied to exposed areas during construction.
- The final design of the project will include provisions to handle additional runoff from the increase in impervious area, such as through a series of roadside ditches and drainage systems.
- The project design will incorporate Design Pollution Prevention BMPs. These BMPs are intended to stabilize soil and prevent contaminants and soil from entering stormwater runoff. In addition, Permanent Treatment BMPs will be used to treat stormwater runoff and remove contaminants and sediments that have already entered the runoff. The project's NPDES permit will likely stipulate that Permanent Treatment BMPs to control pollutant discharges be considered and implemented for all new or reconstructed facilities. The use of existing biofiltration swales and strips will be the primary Permanent Treatment BMP. The swales will be designed to also minimize velocity and erosive conditions. In addition, nonapproved treatment BMPs will be proposed for a project if warranted by the type of project and the potential for impacts to water quality. The following have been proposed for this project: two infiltration basins, one detention basin, one biofiltration swale, and one or two biofiltration strips.

### ***Geology, Soils, and Seismicity***

The following preliminary measures are recommended for the design and construction of the proposed project; they should be verified during final design (plans, specifications, and estimates).

### ***Fault Rupture and Subsidence***

- The project design will be carried out in accordance with Department Seismic Design Criteria and the regulations detailed in the Alquist-Priolo Earthquake Fault Zoning Act.
- Potential surface deformation resulting from subsidence as a result of continuing gravel mining operations may be mitigated by periodic repair to the road surface, curbs, and other engineered facilities. Annual inspection will be carried out to assess ongoing subsidence damage.

### *Earthquake Shaking*

- Roadways and bridges will be designed and constructed at a minimum to the seismic design requirements for ground shaking specified in the Uniform Building Code for seismic zone 4.
- To satisfy the provisions of the 1998 California Building Code, the proposed facilities will be designed to withstand ground motions equating to approximately a 500-year return period (10 percent probability of exceedance in 50 years). Bridges will be designed in accordance with the latest Department Seismic Design Criteria.

### *Liquefaction and Lateral Spreading*

- Site-specific exploratory borings and accompanying laboratory testing during final design of the project bridge structures will be required to delineate any potentially liquefiable materials. Potentially liquefiable deposits will either have to be removed or engineered (dewatered or densified) to reduce their liquefaction potential or the engineering design will have to incorporate pile foundations that extend beyond potentially liquefiable deposits.

### *Expansive Soil*

- Site-specific borings and testing will include investigation for subsurface materials that might contribute to heaving. To prevent heaving, highly expansive soils will be overexcavated and replaced with fill or treated with appropriate soil amendments.

### *Landsliding*

- Site-specific geologic and geotechnical investigations and laboratory testing, as needed during the final design/plans, specifications, and estimates phase, will determine the stability of slopes and their parent material. Using these data, appropriate slope-strengthening and stabilizing designs can be developed if deemed necessary. Retaining walls are included in the preliminary design at specific locations of new road cut and fill.

### *Erosion*

- Soil and slope stability measures will be implemented to prevent or reduce erosion. These may include temporary hydroseeding to provide a vegetation cover with straw bales, placement of temporary plastic slope covers, and use of temporary drainage measures to divert runoff from exposed slopes or soils. These

measures are addressed in more detail in the Geotechnical Impact Assessment (AGS 2006).

### ***Hazardous Waste and Materials***

- A shallow soil investigation will be performed in the study area to determine if lead from vehicle exhausts and/or residues of organic or inorganic agricultural chemicals have affected shallow soils that could be encountered during project development. Depending on the findings of the investigation, special soil management and disposal procedures may be required and/or additional construction worker health and safety procedures may be implemented during project construction.
- An asbestos and lead-based paint survey will be performed for all structures constructed prior to 1980 that may be demolished during project development. Concrete from the Arroyo del Valle bridge structure and other concrete structures that could be affected by the project will be tested for asbestos. If asbestos or lead is present in the buildings or concrete structures, abatement and construction worker health and safety measures may be required for demolition activities.
- A CRMP will be prepared to address potential hazardous material issues during construction of the project. The CRMP should include available data from sampling conducted in the study area and all health, safety, and soil management and disposal procedures that are determined to be necessary for the project, based on the findings of the soil investigation. The CRMP will also address the possibility of encountering unknown contamination or buried hazards, such as previously unreported underground storage tanks. The CRMP will include emergency procedures for accidental releases of hazardous materials used or stored during construction activities.

### ***Air Quality***

- Dust control practices will be employed to minimize or avoid potential exceedances (violations) of the PM<sub>10</sub> air quality standard during construction, in accordance with Bay Area Air Quality Management District CEQA Guidelines.

### ***Noise***

Long-term traffic noise abatement:

- A soundwall at the Ruby Hill development that would effectively shield a tennis court and adjacent recreational facilities was determined to be feasible but would block existing views. The soundwall has determined to be not reasonable and

will not be included in the project. The use of pavement surfaces that have a noise-reduction benefit, are cost-effective, and meet safety and maintenance requirements, can be considered at the time of final project design and development of contract specifications. (However, this is not considered noise abatement under Federal Highway Administration guidelines.)

- Construction noise abatement: The contractor will be required to comply with local noise ordinances limiting construction hours. Temporary enclosures can be considered for especially noisy activities, if practicable. Impact driving activities for bridge foundation construction should be monitored if in noise-sensitive locations. Mufflers should be used on internal combustion engines. A designated contact should be identified to manage construction noise complaints. Gas and diesel-powered equipment should be prohibited or limited from unnecessary warming-up, idling or engine revving near residential uses.

### ***Natural Communities***

- Approximately 58 oak trees will need to be planted based on the size distribution and recommended mitigation ratios for 24 oaks with a DBH between 1 and 30 inches and two oaks with a DBH between 30 and 60 inches. Replacement tree plantings could be located in the adjacent environmental conservation area or within the right-of-way of the SR 84 corridor. A planting plan will be developed to replace these trees based on criteria including site conditions along the route and adequate clearance from the highway.

### ***Wetlands and Other Waters of the United States***

#### ***Construction Mitigation***

- Disturbance to existing grades and vegetation will be limited to the actual project site and necessary access routes. Placement of all roads, staging areas, and other facilities will avoid and limit disturbance to wetland habitat. Existing ingress or egress points will be used. Following completion of the work, the area will be re-contoured and returned to preconstruction condition or better.
- Erosion control and sediment detention devices (e.g., well-anchored sandbag cofferdams, straw bales, or silt fences) will be incorporated into the project design and implemented during construction and afterward if necessary to minimize sediment impacts to wetlands and waters of the United States. These devices will be placed at all locations where there is a likelihood of sedimentation. Erosion control materials will be available for small sites that may become bare and for sediment emergencies.

- All disturbed soils at each site will undergo erosion control treatment prior to the rainy season and after construction is terminated. Treatment includes hydroseeding and sterile straw mulch, and erosion control blankets for disturbed soils on gradients of over 30 percent.
- Work within the arroyos or the unnamed creeks will be restricted and scheduled accordingly by season. It is expected that regulatory permits will specify no work within the channels between mid-October and mid-April.

### ***Compensatory Mitigation***

One or more of the following options will be implemented to compensate for potential project impacts to wetlands and other waters of the U.S.:

- In accordance with the February 2008 Biological Opinion for the project, 34.17 acres of habitat will be purchased at a local USFWS-approved mitigation bank to benefit endangered species (Section 2.19.4). Creation of new wetlands within the mitigation acreage will be investigated.
- An opportunity for on-site wetland enhancement exists at Arroyo Mocho, where a mitigation site was developed to offset the impacts associated with the original construction of Isabel Avenue. The existing channel could be widened or recontoured to allow for expansion of the existing wetland area to offset the proposed project.
- If on-site mitigation is not practicable or feasible, credits could be purchased at an approved mitigation bank.
- If a mitigation bank is not available or feasible at the permit stage prior to project construction, the USACE may allow use of an in-lieu fee arrangement where payments fund other restoration projects or programs.

Mitigation for wetland impacts must be approved by the USACE and RWQCB.

### ***Plant and Animal Species***

- BMPs and other measures will be implemented during construction activities to avoid impacts to biological resources in the site and minimize the possibility of spreading invasive species. These measures include scheduling minimal activities during the rainy season, using temporary erosion control devices on slopes where erosion or sedimentation could degrade sensitive biological resources, and removing all temporary fill and construction debris from the site after completion of construction.

### ***Threatened and Endangered Species***

Habitat for the California red-legged frog and California tiger salamander occurs near the project and should be avoided during construction. San Joaquin kit fox has a low potential to occur in the project area, but measures can be incorporated into construction contracts to further ensure that no impacts to this species would occur. These measures are listed below.

- During construction, temporary fencing will be installed around the perimeter of the project site, with special attention to fencing off waters of the U.S., the lands to the east of the project, and the unnamed creek between Ruby Hill Road and Vallecitos Road that roughly parallels the east side of the SR 84 right-of-way.
- Erosion control measures will be implemented during construction to minimize degradation of the creek water quality.
- All construction debris will be removed from the construction site after completion.
- Speed restrictions (20 mph limit) will be applied to all construction areas and staging that takes place off the existing public roads to minimize conflicts with wildlife. Nighttime work should be restricted to the extent feasible. Travel within or along the project construction areas will be restricted to existing, established roadbeds.
- Necessary trenching more than 2 feet deep will be covered by the end of each working day. Pipes, culverts, or similar structures temporarily stored or staged on site will be sealed from possible use by animals. Discovery that pipes, culverts or similar facilities are being used by a potential endangered species will require notification and possible involvement of the USFWS.
- No firearms or other weapons will be allowed on-site.

In addition, the Department will implement measures to avoid or minimize potential impacts to the California red-legged frog, California tiger salamander, and San Joaquin kit fox, including pre-construction surveys for the three species; biological monitoring for activities that may result in take of listed species; purchase of 34.17 acres of habitat that will benefit California red-legged frog, California tiger salamander, and San Joaquin kit fox; and other conservation measures outlined in the USFWS Biological Opinion.

### ***Invasive Species***

- The landscaping and erosion control included in the project will not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions will

be taken if invasive species are found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

