APPENDICES

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APPENDIX A: ENVIRONMENTAL SIGNIFICANCE CHECKLIST

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included in Section VI following the checklist. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts.

The *Initial Study* checklist was completed during the scoping process prior to the completion of the technical studies and was preliminary. This environmental significance checklist reflects the conclusions reached after the completion of the technical studies.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?				x
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?		x		
c) Substantially degrade the existing visual character or quality of the site and its surroundings?		x		
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			x	
II. 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 non-agricultural use?				x
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				x

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				x
III. 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?				x
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?				x
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?				x
d) Expose sensitive receptors to substantial pollutant concentrations?			x	
e) Create objectionable odors affecting a substantial number of people?			x	
IV. 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?			x	
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 US Fish and Wildlife Service?			x	
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?			x	

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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?				x
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				x
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?				x
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?				x
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?				x
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		x		
d) Disturb any human remains, including those interred outside of formal cemeteries?				x
VI. 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:				
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.				x
ii) Strong seismic ground shaking?				x
iii) Seismic-related ground failure, including liquefaction?				x

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
iv) Landslides?				x
b) Result in substantial soil erosion or the loss of topsoil?			x	
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?			x	
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?				x
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?				x

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

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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?				x
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				x
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?				x
VIII. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?		x		
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)?			x	
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?			x	
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?			x	
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?			x	
f) Otherwise substantially degrade water quality?			x	
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?				x

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				x
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?				x
j) Inundation by seiche, tsunami, or mudflow?				x
IX. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?				x
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?				x
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				x
X. 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?				x
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?				x
XI. NOISE –				
Would the project result in:				
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?			x	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			x	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			x	

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		x		
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?				x
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?				x
XII. 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)?				x
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				x
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				x
XIII. 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?				x
Police protection?				x
Schools?				x
Parks?				x
Other public facilities?				x

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. 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?				x
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?				x
XV. 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)?			x	
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?				x
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?				x
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				x
e) Result in inadequate emergency access?				x
f) Result in inadequate parking capacity?				x
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				x
XVI. UTILITIES AND SERVICE SYSTEMS –				
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			x	

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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?			x	
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			x	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				x
e) Result in a 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?			x	
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			x	
g) Comply with federal, state, and local statutes and regulations related to solid waste?				x
XVII. 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, 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?				x
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)?				x
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				x

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APPENDIX B: RESOURCES EVALUATED RELATIVE TO THE REQUIREMENTS OF SECTION 4(F)

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S.C. 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

1. there is no prudent and feasible alternative to using that land; and

2. the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs, which use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

Use occurs when 1) the property is acquired for a transportation project, 2) there is an occupancy of land that is adverse to the preservationist purpose of Section 4(f), or 3) there is (are) proximity impact(s) that substantially impairs the purpose of the land (this is called constructive use).

This section of the document discusses parks, recreational facilities, wildlife refuges and historic properties found within or adjacent to the project area that do not trigger Section 4(f) protection either because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, 4) the project does not permanently use the property and does not hinder the preservation of the property, or 5) the proximity impacts do not result in constructive use.

As discussed in **Section 2.1.1.3 – Parks and Recreation** there are 11 city parks, three regional parks, two private golf courses, and one private racquet club in the vicinity of the project. The proposed fourth bore on the northern alignment like the current most northerly bore and the BART tunnel would pass underneath Grizzly Peak Open Space and the Sibley Volcanic Regional Preserve both owned by the East Bay Regional Park District. There would be no use of the overhead land. The FHWA does not consider subsurface facility as "use" and thus has determined that the northern alignment (both two- and three-lane alternatives) of the proposed Caldecott Improvement Project would not constitute a "use" of publicly owned land under Section 4(f) of the U.S. Department of Transportation Act of 1966 (see Figure A.1).

There are some parks that could potentially be sensitive to noise, which could be the type of proximity impact resulting in constructive use. However, the noise analysis for the project concluded that the build alternatives would result in a minimal level of noise increase and therefore, there would not be constructive use with the build alternatives.

As discussed in **Section 1.2.2- Alternative Development Process** and in **Section 1.2.6 – Alternatives Considered but Eliminated from Further Discussion** early in 2004, more detailed studies were conducted addressing two and three lane tunnel alternatives on the southern and northern alignments. The findings of these studies showed that, if constructed, the southern alternatives would not produce any

operational benefits—and in fact, present a number of problems—when compared with the northern alternatives. In comparison, the southern alternatives would (1) require longer tunnels, which are more difficult to construct; (2) are more expensive to build; (3) require the acquisition of more right-of-way; (4) have greater potential geotechnical problems; (5) cause greater visual impacts; and (6) produce more excavated material. Constructing the southern alternatives would also cause impacts to riparian habitat and present substantial water quality issues, which would likely trigger storm water treatment controls.

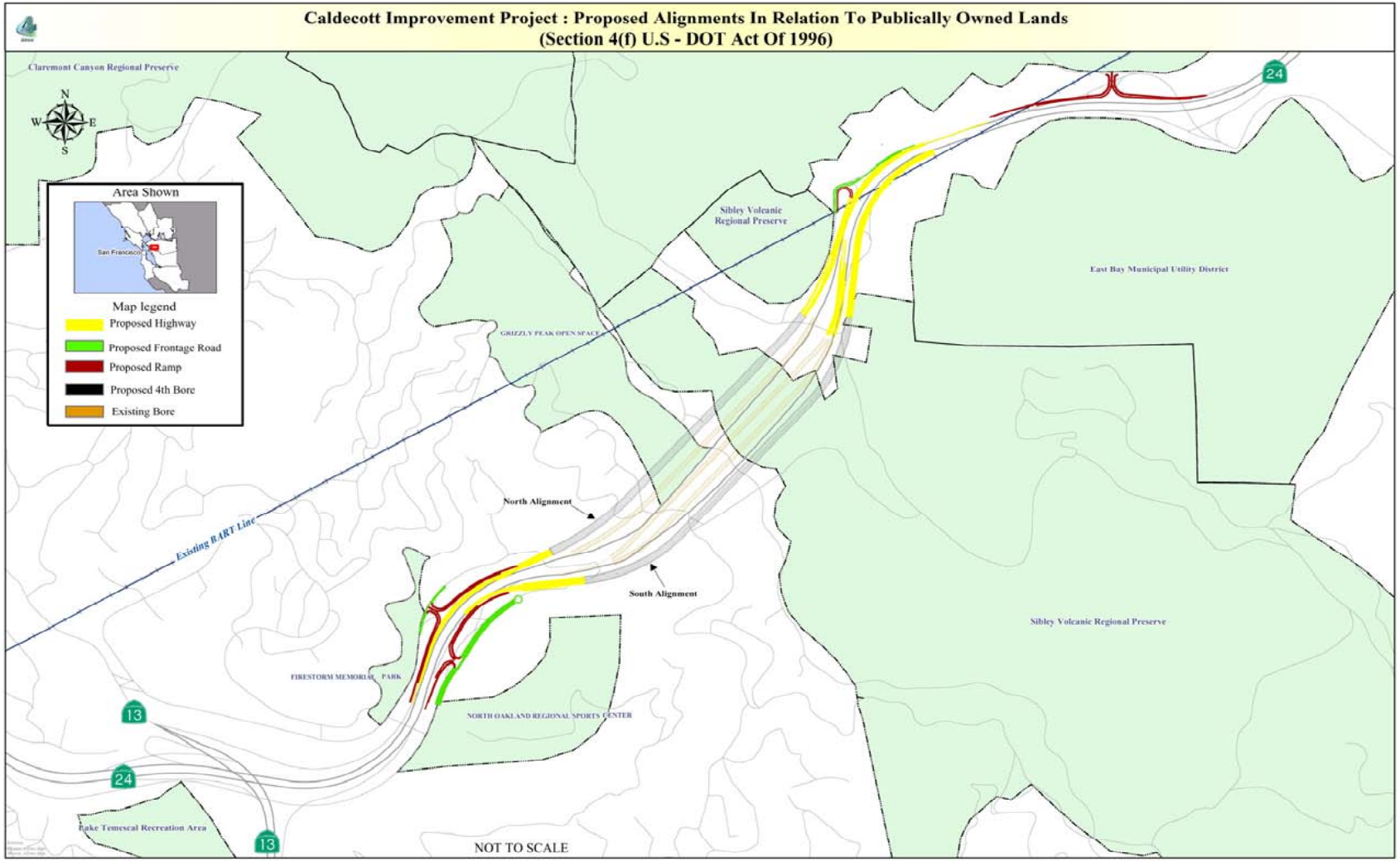
In addition, the southern alternatives would "use" Section 4(f) land at the North Oakland Regional Sports Center, west of the portal, and East Bay Regional Park land at the eastern portal of the proposed new tunnel. Specifically:

On Broadway, the realignment of the proposed frontage road would impact the North Oakland Regional Sports Center/Caldecott Field. For both the two and three lane alternatives, this would require taking approximately 310 square meters (0.031 hectares, 0.0766 acres) of right of way from the Sports Center. This amounts to about 0.002% of the Sports Center; and

Southern Alignment – The East Portal structure and a portion of the proposed highway would require the taking approximately 345 square meters (0.0345 hectares, 0.085acres) of right of way from the Sibley Volcanic Regional Preserve (SVRP) by the two lane alternative (0.0002% of SVRP land) and approximately 510 square meters (0.051 hectares, 0.126 acres, or 0.0003% of SVRP land) by the three lane alternative.

Given the findings of these studies, District 4 Management decided to eliminate the two southern alternatives from further study. At the August 25, 2004 Project Development Team (PDT) meeting for the project, the team members, including FHWA representatives, concurred with the recommendation. FHWA confirmed this is subsequent correspondence with the Department. Because the two southern alternatives were eliminated from further consideration and because the northern alternatives are prudent and feasible alternatives that are not subject to the provision of Section 4(f), FHWA has determined that the Caldecott Improvement Project does not trigger the provisions of Section 4(f).

Figure B.1 Section 4(f) Map



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APPENDIX C: 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.

WILL KEMPTON
Director

"Caltrans improves mobility across California"

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APPENDIX D: MINIMIZATION AND/OR MITIGATION SUMMARY

The Department is required to comply with all applicable Federal and State laws, statutes, regulations, and policies that pertain to environmental protection, conservation, and mitigation. Federal and state environmental documents and permits from regulatory and permitting agencies often require mitigation for project impacts and for monitoring to ensure that mitigation measures are successful.

Mitigation measures for the proposed project are presented in Chapter 2 and are summarized in the Summary and in Table S-1.

An integrated tracking system known as Permits, Approvals, and Mitigation (PAM) has been developed by District 04 to convey environmental commitment information through the different project phases of environmental analysis, design, construction, and maintenance. This allows the Project Manager and the environmental units to track all permit requirements and mitigation commitments.

There are four forms that are completed throughout the life of the project. Form 1 (see Table D-1) is completed upon completion of the environmental phase of the project. It is a summary of the required permits and environmental commitments that must be incorporated into the project. Forms 2A and 2B (see Table D-2 and D-3) are completed during the Plans, Specifications, and Estimates (PS&E) phase. The design office responsible for the project completes these forms. Form 2A list all permits along with their expiration dates and construction windows governing construction activities. Form 2B shows whether the commitments have been incorporated into the PS&E or are to be accomplished by Contract Change Order, Maintenance, or a separate contract. Form 2A is signed by the Senior Environmental Planner, the Project Engineer, and the Project Manager certifying that all permit conditions and environmental commitments have been properly addressed as shown on forms 2A and 2B at the completion of the design phase. Form 3 (see Table D-4) will be completed by the Office of Construction to record all changes and additions to the environmental commitments or permit conditions made during the construction phase. After completion of the project, form 4 (see Table D-5) is completed by the environmental office to provide the maintenance office with information about site sensitivity and actions required to ensure compliance with the permit conditions or environmental commitments.

Table D-1 PAM Form 1

Form 1 **SUMMARY OF REQUIRED PERMITS AND ENVIRONMENTAL COMMITMENT -PS&E PHASE**

TO: Cristina Ferraz PROJECT MANAGER

ATTN.: Candace Kosior PROJECT ENGINEER

DATE:	8-Aug-07
CO. RTE. KP:	04-ALA-24 KP 8.5/10.0 04-CC-24 KP 0.0/2.1
RU/EA:	294900
P.M.	ALA 5.3/6.2 CC 0.0/1.3

Below is a summary of the required permits, and environmental commitments that must be incorporated into the PS&E, for this project. Please contact___ Gregory McCo at 510-286-6216

		Y/N	Mit. Plan Reqd (Y/N)	COMMENTS
PERMITS AND AGREEMENTS	CDFG 1601/03 Streambed Alteration Agreement.	N	N	
	BCDC: Bay Fill Permit	N	N	
	BCDC: Pub. Access Review	N	N	
	Coastal Dev. Permit: County	N	N	
	Coastal Dev. Permit: State	N	N	
	State Lands Lease Agreement	N	N	
	RWQCB: NPDES	Y		Best Management Practice will be incorporated to reduce discharge of pollutants during construction and permanently to the Maximum Extent Practicable
	RWQCB: Water Qual. Cert.	N		
	Endangered Species Act[1]	S	N	
	Consultation	F	Y	The effects to 12.07 acres (4.88 hectares) of California red-legged frog habitat shall be compensated at 3:1 (36.21 acres [14.65 hectares]) with occupied California red-legged frog habitat. The permanent effects to 12.07 acres (4.88 hectares) of Alameda whipsnake habitat shall be compensated at 3:1 (36.21 acres [14.65 hectares]) with occupied Alameda whipsnake habitat.
	USACOE 404: Nationwide	Y	Y	
	USACOE 404: Individual	N	N	
	USACOE Section 10 Permit	N	N	
	USCG Section 9 Permit	N		
ENVIRONMENTAL COMMITMENTS	Noise Attenuation	Y	Y	Project may include noise abatement measures such as noise barriers
	Erosion Control	Y	Y	Permanent design pollution prevention Best Management Practices and permanent treatment BMPs need to be evaluated during the design phase to determine feasibility
	Hazardous Materials Investigation/Treatment	N	N	Sampling/testing for aerially deposited lead (ADL), asbestos, and ground water contamination at the Plans, Specifications, and Estimates stage prior to construction of the project. If ADL and/or asbestos are found, special handling would be required that would include implementing a Department health and safety plan. If the potential for ground water contamination is present, the Department would manage any extracted ground water according to regulatory requirements.
	ESA (Archaeological)	N	N	
	ESA (Paleontology)	Y	Y	A Paleontological Mitigation Plan will be prepared for this project and will be included in the Plans, Specifications, and Estimates package.
	ESA (Biology)	Y		Restrict vehicle and foot traffic near trees, prohibit fueling, equipment/material storage, and placement of fill or other materials over the root zone
	ESA (Historical)	N	N	
	ESA (Scenic Resources)	N		
	Wetland/Riparian Mitigation	Y	Y	Restoration of wetlands at a ration of 2:1
	Biological Mitigation	Y	Y	Final Tree Replacement and Planting Plan will be prepared and will include preliminary recommendations for tree replacement

A copy of the project PS&E must be sent to Environmental for review before finalization.

☐ **Attachments**

cc: Design, Senior Envir. Plan., File

OFFICE CHIEF OF ENVIRONMENTAL ANALYSIS

See the reverse side of this form for additional information.

Ver 6.0 July '00

Table D-2 PAM Form 2A

FORM 2A: PERMITS, AGREEMENTS & MITIGATION (PAM) COMMITMENTS-DESIGN PHASE

TO: Raymond Pang ,OFFICE CHIEF

ATTN.: Vince Bonner ,BRANCH CHIEF

DESIGN OFFICE Design Contra Costa

DATE:	
CO. RTE. KP:	04-ALA-24 KP 8.5/10.0 04-CC-24 KP 0.0/2.1
RU/EA:	294900
P.E. CONTACT:	Candace Kosior (510) 622-5767
P.M.:	ALA 5.3/6.2 CC 0.0/1.3

- This form contains a summary of **attached** permits which contain permit conditions governing construction activities on this project.
- Please contact the Project Engineer or listed individuals above for additional information regarding specific information.

	Y/N	Permit No.	Issue Date	Exp. Date	Construction Window	Comments
CDFG 1601/03 Streambed Alteration Agreement.	N					
SF Bay Conservation & Development Commission	N N					
Coastal Dev. Permit: County	N					
Coastal Dev. Permit: State	N					
State Lands Lease Agreement	N					
RWQCB: NPDES Permit	N					
RWQCB: Contaminated Groundwater Disposal	N N					
Endangered Species	S					
Consultation Requirements	F				June 1 and Oct 30	Construction related activities within the immediate Gateway Boulevard east off-ramp exit area will be limited to the summer months, between June 1 and October 30
USACOE 404: Nationwide*	N					
USACOE 404: Individual	N					
USACOE Regional General	N					
USCG Section 9 Permit	N					
USACOE Section 10 Permit	N					

*Indicate NWP TYPE:_____

SENIOR, ENVIRONMENTAL PLANNER **DATE**
Office of Environmental Analysis

The project PS & E has been reviewed and all permits, agreements and mitigation commitments have been addressed as shown on Forms 2A & 2 B.

PROJECT ENGINEER **DATE** **PROJECT MANAGER** **DATE**

All permits and their conditions have been reviewed with the contractor and the contractor is aware of the permit conditions.

RESIDENT ENGINEER **DATE**

☐ **Attachments**

See the reverse side of this form for additional information. **Ver 6.0- July '00**

Table D-3 PAM Form 2B

FORM 2B: PERMITS, AGREEMENTS AND MITIGATION COMMITMENTS-DESIGN PHASE										DATE:	9/1/2005
This form contains a summary of environmental commitments governing construction activities on this project, that may not have been included in the PS &E.										CO. RTE. KP:	04-ALA-24 KP 8.5/10.0 04-CC-24 KP 0.0/2.1
										EA:	294900
		TO BE ACCOMPLISHED BY:								P.E. CONTACT	
COMMITMENTS	P-Permits C-Commitments	Plans	Spec. Prov.	CCO's	Maintenance	Sep. Contract	Completion Date	Concurred By Date	Comments	PM:	ALA 5.3/6.2 CC 0.0/1.3
										Monitored By Frequency	CONTACTS
Noise Attenuation											
Erosion Control											
Hazardous Material Treatment											
NPDES (Storm Runoff Controls)											
Archaeological Resources											
Environmentally Sensitive Area											
Historical Resources											
Scenic Resources											
Wetland/Riparian Mitigation											
Biological Mitigation											

Ver 6.0 July '00

Table D-4 PAM Form 3

FORM 3: PERMITS, AGREEMENTS AND MITIGATION (PAM) COMMITMENTS - CONSTRUCTION PHASE

This form contains a summary of changes in environmental commitments made during the construction phase.

COMMITMENTS	Permits Commitments	TO BE ACCOMPLISHED BY...							ACTIONS REQD.	CONTACTS
		CCO			MAINTENANCE	PARATE CONTRACTS				
		Concurred By		Completion	Concurred By				Monitoring By	
		Environmental Program Mng	Date Date	Date	Date	Funded EA:	Programme Y/N	ADV. Date	Frequency	

All permit conditions and environmental commitments listed on Forms 2A, 2B and 3, pertaining to construction activities, have been fulfilled. All CCOs affecting environmental commitments have been concurred by the Office of Environmental Planning.

RESIDENT ENGINEER DATE

July-01-97

Table D-5 PAM Form 4

FORM 4: PERMITS, AGREEMENTS AND MITIGATION (PAM) COMMITMENTS - MAINTENANCE & OPERATION PHASE

To:_____ , Maintenance Manager Region-____

cc: _____ , Branch Chief Maintenance Services
_____ , Maintenance Manager Specialty Region-_

DATE:	09/01/2005
CO. RTE. KP:	04-ALA-24 KP 8.5/10.0 04-CC-24 KP 0.0/2.1
Date Completed	
P.E. Contact:	Candace Kosior
EA for MAINT.	294900
PM:	ALA 5.3/6.2 CC 0.0/1.3

Below is a summary of environmental mitigation commitments being carried out for this project which require either: (1) further direct action by Maintenance or (2) your awareness and protection of sensitive resources and/or mitigation sites. Please review and sign this form, maintain a copy and return the signed original to the Senior Environmental Planner listed below. If additional information is required please contact the listed individuals for additional information.

Commitments	(1) / (2)	Actions Required	Map Y/N	Monitoring By	Related Permits	Copy Attach. Y/N	Contact
Erosion Control							
Hazardous Material							
Hazardous Materials ESA							
Archaeological ESA							
Biology ESA							
Historical ESA							
Scenic Resources ESA							
Biology Mitigation							
Habitat Restor./Reveg.							
RWQCB-NPDES All Permits							

Senior Environmental Planner Date Maintenance Manager July-01-97

APPENDIX E: LIST OF ACRONYMS

2N	two-lane tunnel North
3N	three-lane tunnel North
2S	two-lane tunnel South
3S	three-lane tunnel South
ABAG	Association of Bay Area Government
ACCMA	Alameda County Congestion Management Agency
ADA	Americans with Disabilities Act
ADL	Aerially Deposited Lead
ALA	Alameda
APE	Area of Potential Effect
ASR	Archaeological Survey Report
AW	Alameda Whipsnake
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BMPs	Best Management Practice
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CC	Contra Costa
CCTA	Contra Costa Transportation Authority
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CERFA	Community Environmental Response Facilitation Act of 1992
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CESA	California Endangered Species Act
CFGC	California Fish and Game Commission
CFR	Code of Federal Regulations
CHP	California Highway Patrol

CNDDB	California Natural Diversity Database
CNPPA	California Native Plant Protection Act
CO	Carbon monoxide
CRHR	California Register of Historic Resources
CRLF	California Red-Legged Frog
CTP	Countywide Transportation Plan
CTS	California Tiger Salamander
CWA	Clean Water Act
dB	Decibel
dBA	A weighted decibel
DBH	Diameter at breast height
Department	California Department of Transportation
DOT	Department of Transportation
EA	Environmental Assessment
EB	Eastbound
EBMUD	East Bay Municipal Utility District
ED	Environmental Document
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Act
ESA	Federal Endangered Species Act
FEMA	Federal Emergency Management Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FTA	Federal Transit Administration
GPS	Global Positioning System
GSRD	Gross Solids Removal Device

HPSR	Historic Property Survey Report
HOV	High Occupancy Vehicle
HRER	Historic Resources Evaluation Report
I-580	Interstate 580
I-680	Interstate 680
IES	Intermittent/Ephemeral Stream
ISA	Initial Site Assessment
ITIP	Inter-regional Transportation Improvement Program
km	kilometer
km/h	kilometer per hour
kp	kilo-post
Ku	Undivided Great Valley Sequence
Lamorinda	Lafayette/Moraga/Orinda
LOS	Level of Service
LU	Landscape Unit
MCE	Maximum Credible Earthquake
MEP	Maximum Extent Practicable
mi	mile
MIS	Major Investment Study
MLD	Most Likely Descendent
MOU	Memorandum of Understanding
mph	mile per hour
MSAT	Mobile Source Air Toxics
MTC	Metropolitan Transportation Commission
NAC	Noise Abatement Criteria
NAHC	Native American Heritage Commission
NATM	New Austrian Tunneling Method
NB	Northbound
NEPA	National Environmental Policy Act

NES	Natural Environmental Study
NFPA	National Fire Protection Agency
NHPA	National Historic Preservation Act of 1966
NOA	Naturally Occurring Asbestos
NOI	Notice of Intent
NOP	Notice of Preparation
NOX	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
OH	Overhead
OHWM	Ordinary High Water Mark
OMC	Operations, Maintenance, & Control
OSHA	Occupational Safety & Health Act
PA	Programmatic Agreement
PA&ED	Project Approval and Environmental Document
PDT	Project Development Team
PIR	Paleontological Resources Identification
PM	Post Mile
PMP	Paleontological Mitigation Plan
PM2.5	Particulate Matter 2.5
PM10	Particulate Matter 10
PPV	Peak Particle Vibrations
PRC	Public Resources Code
PS&E	Plans, Specifications, and Estimates
PSR	Project Study Report
PUC	Public Utilities Commission
PYE	Person Years of Employment
RCRA	Resource Conservation and Recovery Act of 1976

RM2	Regional Measure 2
RTP	Regional Transportation Plan
RTIP	Regional Transportation Improvement Program
R/W	Right-of-Way
RWQCB	Regional Water Quality Control Board
SAFETEA-LU	Safe Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SB	Southbound
SEE	Safety Evaluation Event
SES	Subway Environment Simulation
SHOPP	State Highway Operations and Protection Program
SHPO	State of California Office of Historic Preservation
SIP	State Implementation Plan
SR	State Route
STIP-IIP	State Transportation Improvement Plan-Inter-regional Improvement Program
STIP-RIP	State Transportation Improvement Plan-Regional Improvement Program
SW	Slope Wetland
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TBD	To Be Determined
TCRP	Transportation Congestion Relief Program
TDM	Transportation Demand Management
TEA-21	Transportation Equity Act for the 21st Century
TIP	Transportation Improvement Plan
TKN	Total Kjeldahl Nitrogen
TMP	Transportation Management Plan
TNAP	Traffic Noise Analysis Protocol
TSCA	Toxic Substance Control Act
TSM	Transportation System Management

TSS	Total Suspended Solids
UG	Underground
U.S.	United States
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USC	United States Code
USFWS	United States Fish and Wildlife Service
WB	Westbound
WMAC	Waste Management of Alameda County
WPCP	Water Pollution Control Plan

APPENDIX F: LIST OF TECHNICAL STUDIES

The studies and reports that provided technical information for this document are available for review at Caltrans District 4 Office, 111 Grand Avenue, Oakland, California. The following reports were prepared specifically for this project:

Air Quality Impact Report, Caltrans District 4 Office of Environmental Engineering, April 2006

Air Quality Impact Report (Addendum), Caltrans District 4 Office of Environmental Engineering, October 2005

Archaeological Survey Report, Caltrans District 4 Office of Cultural Resource Studies, June 2004

Biological Assessment, District 4 Office of Biological Sciences and Permits, February 2007

Caldecott Tunnel Fourth Bore Forecasting Project Documentation-Final Report, Cambridge Systematics, Inc. for Caltrans District 4 Office of Advance Planning, April 2006

Caldecott Tunnel Fourth Bore Forecasting Project Documentation Addendum, Caltrans District 4 Office of Advance Planning, October 2005

Caldecott Tunnel Fourth Bore: Updated Travel Demand Forecasting Analysis and Documentation, Cambridge Systematics, Inc. for Caltrans District 4 Office of Advance Planning, April 2006

Environmental Constraints Memorandum, Jones & Stokes for Caltrans District 4, February 2003

Final Community Impact Assessment for the Caldecott Improvement Project, Parsons for Caltrans District 4, May 2005

Final Community Impact Assessment for the Caldecott Improvement Project(Addendum), Parsons for Caltrans District 4, October 2005

Final Operational Analysis Report, Caltrans District 4 Office of Highway Operations, March 2006

Final Operational Analysis Report (Addendum), Caltrans District 4 Office of Highway Operations, October 2005

Final Scoping Summary Report, Public Affairs Management for Caltrans District 4, February 2003

Finding of No Adverse Effect, Jones and Stokes for Caltrans District 4 Office of Cultural Resources, January 2005

Finding of No Adverse Effect (Addendum), Caltrans District 4 Office of Cultural Resources, October 2005

Geologic Information for Caldecott Tunnel Fourth Bore EIR, Caltrans District 4 Office of Geotechnical Design, June 2004

Growth Inducement Analysis for the Caldecott Improvement Project, Parsons for Caltrans District 4, May 2005

Growth Inducement Analysis for the Caldecott Improvement Project (Addendum), Parsons for Caltrans District 4, October 2005

Growth Inducement Study-Revised Final Report for the Caldecott Improvement Project, Parsons for Caltrans District 4, April 2007

Historic Property Survey Report, Jones and Stokes for Caltrans District 4 Office of Cultural Resources, January 2005

Initial Site Assessment for hazardous waste, Caltrans District 4 Office of Environmental Engineering, April 2004

Initial Study: Caltrans Improvement Project, Jones & Stokes for Caltrans District 4, November 2002

Lighting Impact Assessment, Light Endeavor for Caltrans District 4, March 2007

Location Hydraulics Study/Floodplain Assessment, Caltrans District 4 Office of Engineering Services II, September 2004

Location Hydraulics Study/Floodplain Assessment (Addendum), Caltrans District 4 Office of Engineering Services II, November 2005

Mobile Source Air Toxins (MSAT) Emissions Analysis TAHA Environmental Planners for Caltrans District 4, June 2007.

Natural Environment Study, Parsons for Caltrans District 4, October 2005

Natural Environment Study (Addendum), Parsons for Caltrans District 4, November 2005

Natural Environment Study (Addendum), Parsons for Caltrans District 4, May 2007

Operations, Maintenance, and Control Building, Visual Impact Assessment Technical Report, Caltrans District 4 Office of landscape Architecture, April 2007

Paleontological Resources Identification and Evaluation Report, Jones & Stokes for Caltrans District 4, July 2004

Paleontological Resources Identification and Evaluation Report (Addendum), Caltrans District 4, June 2005

Draft Paleontological Mitigation Plan, PaleoResource Consultants, F & F GeoResource Associates, Inc.for Caltrans District 4, July 2007

Preliminary Geotechnical Report, Earth Mechanics, Inc. for Parsons Brinckerhoff and Caltrans District 4, February 2003

Project Study Report, Caltrans District 4, December 2000

Relocation Impact Memorandum, Caltrans District 4 Office of Right of Way Relocation Services, November 2004

Route 24/Caldecott Tunnel Corridor Study, Metropolitan Transportation Commission, January 2001

Revised Traffic Noise Impact Report, Caltrans District 4 Office of Environmental Engineering, August 2005

Revised Traffic Noise Impact Report (Addendum), Caltrans District 4 Office of Environmental Engineering, October 2005

Traffic Noise Impact Report (Addendum #1), Caltrans District 4 Office of Environmental Engineering, May 2007

Utilities for the Caldecott Tunnel Technical Memorandum, Parsons for Caltrans District 4, February 2005

Caldecott Tunnel 4th Bore, Ventilation Analysis Report Jet Fan Feasibility Study 2-Lane and 3-Lane Options, EarthTech for Caltrans District 4, April 2005

Caldecott Tunnel 4th Bore, Ventilation Analysis Report Jet Fan Feasibility Study 2-Lane and 3-Lane Options (Addendum), EarthTech for Caltrans District 4, October 2005

Visual Impact Assessment, Circle Point for Caltrans District 4, June 2005

Visual Impact Assessment (Addendum 1 and 2), Caltrans District 4 Office of Landscape Architecture, September 2005 and October 2005

Revised Water Quality Report, Caltrans District 4 Office of Water Quality, January 2006

Revised Water Quality Report, Caltrans District 4 Office of Water Quality, April 2007

Delineation of Waters of the United States, Including Wetlands, Caldecott Improvement Project, Alameda and Contra Costa Counties, CA, Jones & Stokes for Caltrans District 4 Office of Natural Sciences, August 2004

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APPENDIX G: GEOTECHNICAL ANALYSIS

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: MR. GREG McCONNEL
Senior Environmental Planner
Division of Environmental Analysis

Date: July 14, 2004

File: 04-ALA 24/ CC-24
Caldecott Tunnel
4th Bore Screening
294900

MM

From: MAHMOOD MOMENZADEH
Transportation Engineer
Office of Geotechnical Design – West
Geotechnical Services
Division of Engineering Services

HN HOOSHMAND NIKOUI, Chief, Branch A
GW GRANT WILCOX, Chief, Branch B
TP TIM POKRYWKA, Office Chief
Office of Geotechnical Design – West
Geotechnical Services
Division of Engineering Services

Subject: Geotechnical Consideration for Screening Matrix

This memorandum presents our input for Geotechnical considerations in the screening matrix.

1. INTRODUCTION

This project proposes to construct a 4th bore adjacent to the existing tunnels at the above referenced site. The Project Study Report (PSR) was prepared by URS in 2000, which included a cost estimate for several tunnel alternatives and addressed general environmental and traffic issues related to the tunnel construction. Following the PSR, a Preliminary Geotechnical Report was prepared by Parson Brinkerhoff (PB) who was selected in 2002 to design the tunnel. The project includes the following main stages:

1. Scoping and Screening stage to select the most desired alternatives for environmental studies,
2. The environmental studies during which a most suitable tunnel alternative will be selected,
3. PS&E for the selected alternative, and
4. Construction.

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The project was recently activated again. Grant Wilcox and Mahmood Momenzadeh have provided the pros and cons of the proposed tunnel alternatives to design and the Project Manager through several informal e-mails and previous meeting discussions. This memo incorporates previous correspondences plus additional information.

2. GEOTECHNICAL FACTS OF TUNNEL ALTERNATIVE RANKING

Currently, 2-lane and 3-lane tunnel alternatives both on the north and south sides of the existing tunnels are considered. The extent of the retaining walls and widening or replacement of the bridges needed for the new tunnel vary depending on the tunnel alternative. The impact of these structures and other roadway items on the total cost of the project, though not as significant as the tunnel itself, should be also considered for screening purposes. Recently, we have developed a cost estimate for several proposed tunnel alternatives, which was presented in a memo dated March 23, 2004.

A summary of the ranks assigned to tunnel alternatives based on the geotechnical consideration is provided in Table 1 at the end of this text. Below is a brief description for each of the geotechnical considerations included in the ranking:

- The **tunnel and portal cost** is more profoundly affected by the number of lanes than the location of alignment, the north or south of the existing tunnel.

  RANK: 1 for 2L-N, 2 for 2L-S, 3 for 3L-N and 4 for 3L-S

- Our estimates indicated that the cost rapidly increases when tunnel construction method changed from NATM to Stack Drift method. It is very likely that a combination of these two methods or similar methods may be needed to construct the 3-lane tunnel due to its excessive width and presence of poor ground condition at the tunnel and portal site. This increases both the cost and the construction time and efforts. It is very prudent to quantify the **risk associated with construction method of the 2 lane and 3-lane** tunnel at this site at a later preliminary design stage when the results of the proposed geotechnical investigation are available. Therefore, it is in our opinion to have both the two and three lane alternatives be studied at the preliminary design stage.

  RANK: 1 for 2L-N, 2 for 2L-S, 3 for 3L-N and 4 for 3L-S

MR. GREG McCONNELL
July 14, 2004
Page 3

Other factors and the ranking of the alternatives for each of these factors which we have distinguished are summarized below:

- Based on the existing Caldecott and BART tunnels construction records, **the problematic intrusive rocks** (sandstone dikes and diabase dikes) which have caused instability problem during the construction of the existing bores becomes less extensive to the north.

  RANK: 1 for 2L-N, 2 for 3L-N, 3 for 2L-S and 4 for 3L-S

- More **construction stage area is available** on both the east and west sides of the north alignment than the south alignment.

  RANK: 1 for 2L-N, 2 for 3L-N, 3 for 2L-S and 4 for 3L-S

- Based on the retaining wall plans and profiles provided by design, the required **retaining structures** and the wall height are more significant for the south alignment.

  RANK: 1 for 2L-N, 2 for 2L-S, 3 for 3L-N and 4 for 3L-S

- **Bridge structures widening or replacement needs** are more for 3-lane than 2 lane tunnel alternatives.

  RANK: 1 for 2L-N, 2 for 2L-S, 3 for 3L-N and 4 for 3L-S

- The PGR indicated significant **erosion potential** within the watershed area on the east side of the southern alignment which may need additional mitigation and may impact the construction during the wet season.

  RANK: 1 for 2L-N, 2 for 3L-N, 3 for 2L-S and 4 for 3L-S

- The north alignment is adjacent to the third bore whereas the south alignment is located near the first bore. Both the ground conditions and the construction techniques used for the first bore are inferior to those of third bore. So, obviously, the north alignment **construction impact on the existing tunnel** will be less than that of the southern alignment.

  RANK: 1 for 2L-N, 2 for 3L-N, 3 for 2L-S and 4 for 3L-S

- The northern alignment is **located at a deeper section of the hill** than the southern one. This may mean less excavation and support problems.

  RANK: 1 for 2L-N, (2 or 3) for 3L-N, (2 or 3) for 2L-S and 4 for 3L-S

The risk associated with the factors below is unknown. However, for the purpose of this study the following ranking were assigned based on the effects of the tunnel geometry on these factors.

- How does the **groundwater** on the north compare with the south alignment?

  RANK: 1 for 2L-N and 2L-S and 2 for 3L-N and 3L-S

- Which alignment has more **impact on the residential area** over and near the portals (**these are: stability, noise, dust, perception)** ?

  RANK: 1 for 2L-N and 2L-S and 2 for 3L-N and 3L-S

- How is the **instability of the slopes and rock creep at portal,** particularly the eastern portal, differ between the northern and southern alignments?

  RANK: 1 for 2L-N and 2L-S and 2 for 3L-N and 3L-S

- How does the extent of the **hydrocarbon and organics and as any resulting gassy conditions** vary between the south and north alignments?

  RANK: 1 for 2L-N and 2L-S and 2 for 3L-N and 3L-S

3.0 CONCLUSIONS

Based on the discussions in the above and the data in Table 1, the 2-lane northern tunnel alternative is the best alternative. The risk increases as the ranking gets higher. The 3-lane north and 2-lane south are mostly identical based on the above evaluation. However, it appears that selection between 3-lane north and 2-lane south based on their ranking requires incorporating suitable weighting factors and considering other traffic and environmental criteria. On the other hand, 3-lane north may be preferred to 2-lane south because the geotechnical and environmental data obtained on the north can be used more

MR. GREG McCONNELL
July 14, 2004
Page 5

efficiently and the need for additional investigation on the south alignment will be eliminated.

* * * * *

If you have any questions, please call Mahmood Momenzadeh at Calnet 510-286-5732, Grant Wilcox at 510-286-4835 or Hooshamand Nikoui at 510-286-4811.

Attachments

c: TPokrwyka , HNikoui, Grant Wilcox, Daily File

MMomenzadeh/mm

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Table 1- Summary of Tunnel Alternatives Ranks (1) for Geotechnical Considerations

Factors Impact Geotechnical Screening	Tunnel Alternatives			
	2-Lane North	3-Lane North	2-Lane South	3-Lane South
Tunnel and portals cost ($) (2)	1($165M)	3 ($240M)	2 ($195M)	4 ($280M)
Tunnel length (lineal meter)	2 (1052 m)	1 (1033m)	4 (1185 m)	3 (1124 m)
Tunnel Excavation (cub.m) (2)	1 (250K)	3 (290K)	2 (280K)	3 (315k)
Risk associated with construction method changes	1	3	2	4
Problematic intrusive rocks	1	2	3	4
Construction stage area availability	1	2	3	4
Retaining structures needs	1	3	2	4
Bridge structures widening/ Replacement Needs	1	3	2	4
Erosion potential	1	2	3	4
Construction impact on the existing tunnel	1	2	3	4
Effects of the hill Depth	1	2	3	4
Groundwater effects (3)	1	2	1	2
Impact on vicinity area stability, construction noise, dust, human perception impact (3)	1	2	1	2
Instability of the slopes and rock creep at portal(3)	1	2	1	2
Hydrocarbons and organics and resulting gassy condition(3)	1	2	1	2
Average Rank (No weight factor used)	1.1	2.3	2.2	3.3

Notes:

(1) Rank 1 is most preferred, Rank 4 is the least preferred
(2) Estimated costs and excavation volume are for NATM excavation and support (SEM) method. If 3-lane alternative requires Stack Drift or other costlier tunneling methods for the unstable rock zones, cost and excavation volumes increases substantially.
(3) Accurate ranking requires more information, given ranks only considers the tunnel geometry effects

MR. GREG McCONNELL
July 14, 2004
Page 5

efficiently and the need for additional investigation on the south alignment will be eliminated.

* * * * *

If you have any questions, please call Mahmood Momenzadeh at Calnet 510-286-5732, Grant Wilcox at 510-286-4835 or Hooshamand Nikoui at 510-286-4811.

Attachments

c: CFerraz, VBonner, TPokrwyka , HNikoui, Grant Wilcox, Daily File

MMomenzadeh/mm

REGISTERED PROFESSIONAL ENGINEER
MAHMOOD MOMENZADEH
C 057482
12/31/05
EXPIRES
CIVIL
STATE OF CALIFORNIA

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APPENDIX H: STATE HISTORIC PRESERVATION OFFICE CONCURRENCE

March 16, 2005

Reply To: FHWA980305A

Gene K. Fong, Division Administrator
Federal Highway Administration
California Division
650 Capitol Mall, Suite 4-100
Sacramento, CA 95814

Re: Finding of Effect for the Proposed Caldecott Tunnel Improvement Project, Alameda and Contra Costa Counties, CA [HAD-CA, FILE #04-ALA-24, PM 5.3/6.2, 04-CC-24, PM 0.0/1.3, DOCUMENT # P51773]

Dear Mr. Fong:

Thank you for consulting with me about the subject undertaking in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California (PA).*

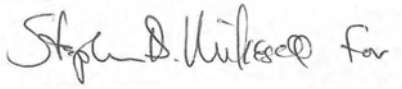
The Federal Highway Administration (FHWA) is requesting my concurrence pursuant to 36 CFR 800.5(c) and Stipulation X.B.1 of the PA, that the proposed undertaking will have no adverse effect on the Caldecott Tunnels, a property previously determined eligible for the National Register of Historic Places in 1998.

The FHWA's finding is based on the conclusion that the undertaking will not result in the physical destruction, alteration or removal of the historic Caldecott Tunnel. In addition the setting around the tunnel has been steadily encroached upon by development since the tunnel was complete in 1937. In the 1998 determination of eligibility the tunnel structure was considered to be the important resource. The boundary established for the Caldecott Tunnel as a historic property was tightly drawn to include only the original portal buildings, approaches, and two tunnels. The environment surrounding the structure was not considered to contribute to the historic significance of the property. Although the undertaking would represent a substantive change to the area near both ends of the tunnel, the project will not change the character of physical features within the property's setting that contribute to its historic significance.

Based on review of the submitted documentation, I concur in the FHWA's finding that this undertaking will have no adverse effect on historic properties. The same finding also satisfies Caltrans' responsibilities under 5024.5(a).

Thank you for considering historic properties during project planning. If you have any questions, please contact Natalie Lindquist of my staff at (916) 654-0631 or e-mail at nlind@ohp.parks.ca.gov.

Sincerely,



Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

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APPENDIX I: PRELIMINARY REASONABLENESS DETERMINATION FOR NOISE ABATEMENTS

The preliminary reasonableness involves the consideration of the cost of abatement, absolute noise levels, the date of development of the impacted residences, and the life cycle of the abatement. These factors are addressed by calculating the reasonable allowance per benefited residence as outlined in the Caltrans publication entitled "Traffic Noise Analysis Protocol' (TNAP), dated October 1998.

A Critical Design Receiver is selected from amongst the modeled receptors to calculate the reasonable allowance. A critical design receiver is defined as a receiver yielding the maximum allowable cost per receptor for a sound wall or system of sound walls. For each noise abatement facility the base allowance of $33,000 (Base Year 2007) per benefited residence is adjusted upwards by the following reasonableness factors:

(1) Absolute noise levels: These are predicted future noise levels at the critical design receiver with project but without noise abatement:

69 dBA or less add $2,000

70-74 dBA add $4,000

75-78 dBA add $6,000

More than 78 dBA add $8,000

(2) The increase of future predicted noise levels with project over existing noise levels:

Less than 3 dBA add $0

3-7 dBA add $2,000

8-11 dBA add $4,000

12 dBA or moreadd $6,000

(3) Achievable noise reduction provided by the proposed noise abatement:

Less than 6 dBA add $0

6-8 dBA add $2,000

9-11 dBA add $4,000

12 dBA or moreadd $6,000

(4) If the majority of benefited residences (more than 50%) were in existence before January 1, 1978 or highway construction on new alignment:

If answer is YES add $10,000

If answer is NO add $0

(5) Total noise abatement costs cannot exceed 50% of the estimated project construction cost, abatement not included.

The amount resulting from adjustments (1) through (4) is called the unmodified reasonable allowance. If the total unmodified reasonable allowance for all noise abatements evaluated is below 50% of the estimated project construction cost (without the abatements), no modifications will be necessary. Otherwise, the amount over the 50% project construction cost needs to be deducting from total reasonable allowance using formulas contained in TNAP and produce the modified reasonable allowance.

The preliminary reasonable assessment is made by comparing the modified reasonable allowance to the estimated construction cost of the sound wall under consideration. The estimated construction cost includes traffic control requirements, utility relocations, drainage revisions and special foundation designs, where needed. If the estimated construction cost is found less than or equal to the allowance, then the sound wall is considered to be reasonable on a preliminary basis.

APPENDIX J: REASONABLE ALLOWANCE CERTIFICATION FOR NOISE ABATEMENTS

Alternatives 2N & 3N

Sound Wall Name	Critical Design Receiver	Exist Noise (dBA)	Future Noise w/o wall (dBA)	Wall Height					
Sound Wall No. 1	**R21**	**67**	**68**	**1.8 m (6 ft)**	**2.4 m (8 ft)**	**3.0 m (10 ft)**	**3.7 m (12 ft)**	**4.3 m (14 ft)**	**4.9 m (16.0 ft)**
Future noise level with wall [dBA, Leq(h)]					63	62	**61**	61	
Attenuation (dBA)				< 5	5	6	**7**	7	
Number of protected receptors (> or = 5 dBA)					1	1	**1**	1	
Truck stack line-of-sight break (Y/N)					N	Y	**Y**	Y	
Pre 1/78 or new hwy (Y/N)					N	N	**N**	N	
Length of sound wall (meters)					249	249	**249**	249	
(Unmodified) Reasonable allowance per receptor				N/A	$33,000	$35,000	**$35,000**	$35,000	N/A
(Unmodified) Reasonable allowance for this wall				N/A	$33,000	$35,000	**$35,000**	$35,000	N/A

Alternative 2N

Sound Wall Name	Critical Design Receiver	Exist Noise (dBA)	Future Noise w/o wall (dBA)	Wall Height					
Sound Wall No. 2 - Option A	**R12**	**73**	**73**	**1.8 m (6 ft)**	2.4 m (8 ft)	3.0 m (10 ft)	3.7 m (12 ft)	4.3 m (14 ft)	4.9 m (16.0 ft)
Future noise level with wall [dBA, Leq(h)]					68	67	66	65	**64**
Attenuation (dBA)				< 5	5	6	7	8	**9**
Number of protected receptors (> or = 5 dBA)					9	15	21	21	**27**
Truck stack line-of-sight break (Y/N)					N	N	N	Y	**Y**
Pre 1/78 or new hwy (Y/N)					N	N	N	N	**N**
Length of sound wall (meters)					274	274	274	274	**274**
(Unmodified) Reasonable allowance per receptor					$37,000	$39,000	$39,000	$41,000	**$41,000**
(Unmodified) Reasonable allowance for this wall				N/A	$333,000	$585,000	$819,000	$861,000	**$1,107,000**

Alternative 2N

Sound Wall Name	Critical Design Receiver	Exist Noise (dBA)	Future Noise w/o wall (dBA)	Wall Height (above earth berm)					
Sound Wall No. 2 - Option B	**R12**	**73**	**73**	1.8 m (6 ft)	**2.4 m (8 ft)**	3.0 m (10 ft)	3.7 m (12 ft)	4.3 m (14 ft)	4.9 m (16.0 ft)
Future noise level with wall [dBA, Leq(h)]				63	**62**	62	62	62	62
Attenuation (dBA)				10	**11**	11	11	11	11
Number of protected receptors (> or = 5 dBA)				23	**29**	29	29	35	35
Truck stack line-of-sight break (Y/N)				Y	**Y**	Y	Y	Y	Y
Pre 1/78 or new hwy (Y/N)				N	**N**	N	N	N	N
Length of sound wall (meters)				161	**161**	161	161	161	161
(Unmodified) Reasonable allowance per receptor				$41,000	**$41,000**	$41,000	$41,000	$41,000	$41,000
(Unmodified) Reasonable allowance for this wall				$943,000	**$1,189,000**	$1,189,000	$1,189,000	$1,435,000	$1,435,000

Alternative 2N

Sound Wall Name	Critical Design Receiver	Exist Noise (dBA)	Future Noise w/o wall (dBA)	Wall Height (above earth berm)					
Sound Wall No. 2 - Option C	**R12**	**73**	**73**	1.8 m (6 ft)	2.4 m (8 ft)	3.0 m (10 ft)	3.7 m (12 ft)	4.3 m (14 ft)	**4.9 m (16.0 ft)**
Future noise level with wall [dBA, Leq(h)]				65	64	63	63	62	**62**
Attenuation (dBA)				8	9	10	10	11	**11**
Number of protected receptors (> or = 5 dBA)				15	15	21	21	27	**27**
Truck stack line-of-sight break (Y/N)				Y	Y	Y	Y	Y	**Y**
Pre 1/78 or new hwy (Y/N)				N	N	N	N	N	**N**
Length of sound wall (meters)				218	218	218	218	218	**218**
(Unmodified) Reasonable allowance per receptor				$39,000	$41,000	$41,000	$41,000	$41,000	**$41,000**
(Unmodified) Reasonable allowance for this wall				$585,000	$615,000	$861,000	$861,000	$1,107,000	**$1,107,000**

Alternative 3N

Sound Wall Name	Critical Design Receiver	Exist Noise (dBA)	Future Noise w/o wall (dBA)	Wall Height					
Sound Wall No. 2 - Option A	**R12**	**73**	**75**	**1.8 m (6 ft)**	2.4 m (8 ft)	3.0 m (10 ft)	3.7 m (12 ft)	4.3 m (14 ft)	4.9 m (16.0 ft)
Future noise level with wall [dBA, Leq(h)]					69	68	66	65	**65**
Attenuation (dBA)				< 5	6	7	9	10	**10**
Number of protected receptors (> or = 5 dBA)					15	15	23	23	**29**
Truck stack line-of-sight break (Y/N)					N	N	N	Y	**Y**
Pre 1/78 or new hwy (Y/N)					N	N	N	N	**N**
Length of sound wall (meters)					277	277	277	277	**277**
(Unmodified) Reasonable allowance per receptor					$39,000	$39,000	$41,000	$41,000	**$41,000**
(Unmodified) Reasonable allowance for this wall				N/A	$585,000	$585,000	$943,000	$943,000	**$1,189,000**

Alternative 3N

Sound Wall Name	Critical Design Receiver	Exist Noise (dBA)	Future Noise w/o wall (dBA)	Wall Height (above earth berm)					
Sound Wall No. 2 - Option B	**R12**	**73**	**75**	1.8 m (6 ft)	**2.4 m (8 ft)**	3.0 m (10 ft)	3.7 m (12 ft)	4.3 m (14 ft)	4.9 m (16.0 ft)
Future noise level with wall [dBA, Leq(h)]				63	**63**	63	63	63	62
Attenuation (dBA)				12	**12**	12	12	12	13
Number of protected receptors (> or = 5 dBA)				23	**29**	29	29	35	35
Truck stack line-of-sight break (Y/N)				Y	**Y**	Y	Y	Y	Y
Pre 1/78 or new hwy (Y/N)				N	**N**	N	N	N	N
Length of sound wall (meters)				161	**161**	161	161	161	161
(Unmodified) Reasonable allowance per receptor				$43,000	**$43,000**	$43,000	$43,000	$43,000	$43,000
(Unmodified) Reasonable allowance for this wall				$989,000	**$1,247,000**	$1,247,000	$1,247,000	$1,505,000	$1,505,000

Alternative 3N

Sound Wall Name	Critical Design Receiver	Exist Noise (dBA)	Future Noise w/o wall (dBA)	Wall Height (above earth berm)					
Sound Wall No. 2 - Option C	**R12**	**73**	**75**	1.8 m (6 ft)	2.4 m (8 ft)	3.0 m (10 ft)	3.7 m (12 ft)	4.3 m (14 ft)	**4.9 m (16.0 ft)**
Future noise level with wall [dBA, Leq(h)]				66	65	64	63	63	**63**
Attenuation (dBA)				9	10	11	12	12	**12**
Number of protected receptors (> or = 5 dBA)				17	17	23	23	29	**29**
Truck stack line-of-sight break (Y/N)				Y	Y	Y	Y	Y	**Y**
Pre 1/78 or new hwy (Y/N)				N	N	N	N	N	**N**
Length of sound wall (meters)				218	218	218	218	218	**218**
(Unmodified) Reasonable allowance per receptor				$41,000	$41,000	$41,000	$43,000	$43,000	**$43,000**
(Unmodified) Reasonable allowance for this wall				$697,000	$697,000	$943,000	$989,000	$1,247,000	**$1,247,000**

APPENDIX K: CONSULTATION WITH U.S. FISH AND WILDLIFE SERVICE

This section provides only the introductory and signature pages of the Biological Opinion to conserve resources.

Sacramento Fish & Wildlife Office, Customized Species List Letter http://www.fws.gov/sacramento/es/spp_lists/auto_letter.cfm

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

January 3, 2007

Document Number: 070103093941

Amy L. Fowler
California Department of Transportation (Caltrans)
111 Grand Avenue
Oakland, CA 94623

Subject: Species List for Species List for Caldecott Tunnel Improvement Project

Dear: Ms. Fowler

We are sending this official species list in response to your January 3, 2007 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be April 03, 2007.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at www.fws.gov/sacramento/es/branches.htm.

Endangered Species Division

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1 of 1 1/3/2007 8:45 AM

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 070103093941

Database Last Updated: December 1, 2006

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Speyeria callippe callippe
callippe silverspot butterfly (E)

Fish

Eucyclogobius newberryi
tidewater goby (E)

Hypomesus transpacificus
Critical habitat, delta smelt (X)
delta smelt (T)

Oncorhynchus mykiss
Central California Coastal steelhead (T) (NMFS)
Central Valley steelhead (T) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana aurora draytonii
California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Reptiles

Masticophis lateralis euryxanthus
Alameda whipsnake [=striped racer] (T)
Critical habitat, Alameda whipsnake (X)

Birds

Haliaeetus leucocephalus

bald eagle (T)

Pelecanus occidentalis californicus
California brown pelican (E)

Rallus longirostris obsoletus
California clapper rail (E)

Sternula antillarum (=Sterna, =albifrons) browni
California least tern (E)

Mammals
Reithrodontomys raviventris
salt marsh harvest mouse (E)

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

Clarkia franciscana
Presidio clarkia (E)

Holocarpha macradenia
Santa Cruz tarplant (T)

Candidate Species

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

Quads Containing Listed, Proposed or Candidate Species:

BRIONES VALLEY (465B)
OAKLAND EAST (465C)

County Lists

Listed Species

Invertebrates
Branchinecta longiantenna
Critical habitat, longhorn fairy shrimp (X)
longhorn fairy shrimp (E)

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

Pelecanus occidentalis californicus
California brown pelican (E)

Rallus longirostris obsoletus
California clapper rail (E)

Sternula antillarum (=Sterna, =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)
Critical habitat, Contra Costa goldfields (X)

Candidate Species

Fish

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

Key:

(E) *Endangered* - Listed 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 Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly al 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.

Pelecanus occidentalis californicus
California brown pelican (E)

Rallus longirostris obsoletus
California clapper rail (E)

Sternula antillarum (=Sterna, =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)
Critical habitat, Contra Costa goldfields (X)

Candidate Species

Fish

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

Key:

(E) *Endangered* - Listed 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 Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly al 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.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The Unite States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by th list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in yc quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat b air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Pl Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habit requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by yo project. We recommend that your surveys include any proposed and candidate species on your list.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act a "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize th impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, the you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected the project, we recommend that you work with this office and the California Department of Fish and Game to devel a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related l of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be

U.S. Fish and Wildlife Service

Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog

August 2005

I. Introduction

The U.S. Fish and Wildlife Service (Service) issued guidance on conducting site assessments and surveys for the California red-legged frog (*Rana aurora draytonii*) (CRF) on February 18, 1997 (1997 Guidance). Since then, the Service has reviewed numerous CRF site assessments and surveys results, accompanied wildlife biologists in the field during the preparation and performance of site assessments and CRF surveys, and consulted with species experts on the effectiveness of the 1997 Guidance. Based on our review of the information, the Service has determined that the survey portion of the 1997 Guidance is less likely to accurately detect CRF than previously thought, especially in certain portions of the species range and particularly where CRF exist in low numbers. In response to the need for new guidance, the Service has prepared this *Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog* (Guidance).

Similar to the 1997 Guidance, two procedures are recommended in the new Guidance to accurately assess the likelihood of CRF presence in the vicinity of a project site: (1) an assessment of CRF locality records and potential CRF habitat in and around the project area and, (2) focused field surveys of breeding pools and other associated habitat to determine whether CRF are likely to be present.

Because CRF are known to use aquatic, riparian, and upland habitat, they may be present in any of these habitat types, depending on the time of year, on any given property. For sites with no suitable aquatic breeding habitat, but where suitable upland dispersal habitat exists, it is difficult to support a negative finding with the results of any survey guidance. Therefore, this Guidance focuses on site assessments and surveys conducted in and around aquatic and riparian habitat.

This Guidance was developed by the Service's Sacramento Fish and Wildlife Office in coordination with the Ventura Fish and Wildlife Office. Input by field biologists and scientists experienced in surveying for the CRF was also used in the development of this Guidance.

If the following Guidance is followed in its entirety, the results of the site assessments and surveys will be considered valid by the Service for two (2) years, unless determined otherwise on a case-by-case basis by the appropriate Service Fish and Wildlife Office. After two (2) years, new surveys conducted under the most current Service Guidance may be required, if

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
1-1-07-F-0292

August 8, 2007

Mr. James B. Richards
California Department of Transportation
P.O Box 23660
Oakland, Ca 94623-0660

Subject: Biological Opinion on the Effects of the Proposed Caldecott Improvement Project on State Route 24 in Contra Costa and Alameda Counties, California (EA 294900) on the Threatened California Red-Legged Frog, the Threatened Alameda Whipsnake, and Designated Critical Habitat for the Alameda Whipsnake.

Dear Mr. Richards:

This is in response to the March 6, 2007, and April 17, 2007, requests from the Federal Highway Administration for formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Caldecott Improvement Project on State Route 24 in Contra Costa and Alameda counties, California. The proposed project consists of a fourth bore of the Caldecott Tunnel, intersection realignment, and associated construction activities to incorporate the new lanes into the existing roadway. The requests were received in this Field Office on March 8, 2007 and April 19, 2007, respectively. This document represents the Service's biological opinion on the effects of the project on the threatened California red-legged frog (*Rana aurora draytonii*), and the threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*) and its critical habitat. This document is issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

This biological opinion is based on: (1) a letter from the Federal Highway Administration (FHWA) to the Service dated March 6, 2007; (2) *Biological Assessment for the Caldecott Improvement Project on State Route 24 (EA 294900)* dated February 2007; (3) an April 19, 2007 letter from FHWA to the Service ; (4) a May 17, 2007, site visit by the Service and the California Department of Transportation (Caltrans); (5) a map of the action area on the west side of the tunnel provided by Caltrans via electronic mail on June 14, 2007; (6) an August 7, 2007,

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electronic mail message from Caltrans describing proposed habitat compensation proposals to include in the project description of the biological opinion, (7) a meeting between the Service, Caltrans, Contra Costa Transportation Agency, and Bill Gray on July 31, 2007; (8) a site visit on August 2, 2007, to a potential compensation site by the Service, Caltrans, and East Bay Regional Parks District; (9) electronic mail and telephone conversations between Caltrans and the Service; and (10) other information available to the Service.

CONSULTATION HISTORY

May 15, 2006	The Service received a letter from Caltrans to the Service dated May 10, 2006, and the *Draft Environmental Assessment/Environmental Impact report for the Caldecott Improvement Project on State Route 24 (EA 294900)* dated May 2006.
March 8, 2007:	The Service received a request from FHWA for formal consultation for the effects of the project o the Alameda whipsnake. FHWA also requested concurrence with Caltrans' determination that the proposed project is not likely to adversely affect the California red-legged frog.
April 10, 2007:	During a telephone discussion with the Service, Caltrans requested a cursory review the Caldecott Improvement Project Biological Assessment ahead of the other projects that according their list have a higher priority.
April 10, 2007:	The Service contacted Caltrans via telephone and electronic mail regarding the results of the requested preliminary review of the Biological Assessment. Formal consultation was advised that formal consultation should be initiated for the effects of he project on the California red-legged frog and the Alameda whipsnake.
April 19, 2007:	The Service received a letter from FHWA requested written rationale for the Service's preliminary determination that the proposed project is likely to adversely affect the California red-legged frog. The letter asked for clarification why the project may affect as much as 24 acres of listed species habitat. They also requested initiation of formal consultation on the California red-legged frog as well as a draft biological opinion for their review in June 2007.
May 6, 2007	The Service received a draft biological opinion which had been prepared by Caltrans.
May 17, 2007	The Service visited the proposed project site with Caltrans to review the wetlands on the east portal and discuss remaining issues.

June 11, 2007	The Service sent Caltrans a request for clarification on various project description issues via electronic mail.
June 13, 2007	Caltrans provided the Service with responses via electronic mail for the June 11, 2007 request for additional information.
June 13, 2007	The Service sent an electronic message to Caltrans regarding section 7 and the proposed project. The Service also requested a map of the project action area for the west side of the tunnel.
June 14, 2007	Caltrans provided the Service with a figure depicting the action area on the west side of the tunnel via electronic mail.
June 15, 2007	Caltrans provided the Service with information via electronic mail regarding the 2.08 acre (0.84 hectare) strip of action area on the west side of the tunnel, between the east bound Gateway Boulevard off-ramp and an existing ditch as an area where there would be temporary effects to the California red-legged frog.
June 15, 2007	The Service requested clarification from Caltrans via electronic mail on Exhibit A figure provided earlier on June 15, 2007.
June 22, 2007	The Service submitted the draft biological opinion for the proposed project to FHWA and Caltrans.
July 31, 2007	The Service met with Caltrans and the Contra Costa Transportation Authority (CCTA) to discuss the draft biological opinion and compensation for loss of habitat for the Alameda whipsnake and the California red-legged frog.
August 2, 2007	The Service, East Bay Regional Park District (EBRPD), and Caltrans visited a potential compensation site. The potential site is located within Alameda whipsnake critical habitat and it includes a likely California red-legged frog breeding pond and appropriate upland habitat for the listed frog.
August 7, 2007	The Service received revised compensation language via electronic mail from Caltrans that included the option of participating in the EBRPD purchase of the potential compensation site or purchasing credits at the Ohlone Conservation Bank. Caltrans would either purchase 36 acres of shared Alameda whipsnake and California red-legged frog habitat at the potential compensation site at $5,000/acre or at the Ohlone Conservation Bank at $15,000/acre.

habitat within Recovery Unit 6 to compensate for affects to the species in the vicinity of the Caldecott Tunnel.

6. Sightings of any listed or sensitive animal species should be reported to the California Natural Diversity Database of the California Department of Fish and Game. A copy of the reporting form and a topographic map, clearly marked with the location the animals were observed, should also be provided to the Service.

7. Caltrans should provide habitat for bats, including surfaces for bat roosts on the underside of bridges and other structures whenever possible.

REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the Caldecott Improvement Project in Contra Costa and Alameda counties, California. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions regarding this biological opinion on the Caldecott Improvement Project on State Route 24, please contact John Cleckler or Chris Nagano at the letterhead address or at telephone (916) 414-6625.

Sincerely,

Chris Nagano

for Cay C. Goude
Acting Field Supervisor

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In reply refer to:
1-1-07-F-0309

AUG 1 7 2007

Mr. Gene Fong
Federal Highway Administration
U. S. Department of Transportation
650 Capitol Mall, Suite 4-100
Sacramento, California 95814

Subject: Amendment to the Biological Opinion on the Effects of the Proposed Caldecott Improvement Project on State Route 24 in Contra Costa and Alameda Counties, California on the Threatened California Red-Legged Frog, the Threatened Alameda Whipsnake, and Designated Critical Habitat for the Alameda Whipsnake (Caltrans EA 294900 and Service File No. 1-1-07-F-0292)

Dear Mr. Fong:

This document amends the U. S. Fish and Wildlife Service's (Service) August 8, 2007, *Biological Opinion on the Effects of the Proposed Caldecott Improvement Project on State Route 24 in Contra Costa and Alameda Counties, California (EA 294900) on the Threatened California Red-Legged Frog, the Threatened Alameda Whipsnake, and Designated Critical Habitat for the Alameda Whipsnake (Service File Number: 1-1-07-F-0292)* for the effects of tunneling project on State Route 24 on the threatened California red-legged frog (*Rana aurora draytonii*) and the threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*). Your request was received in our office via an electronic mail message on August 13, 2007. This amendment is issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

This amended biological opinion is based on: (1) *Biological Opinion on the Effects of the Proposed Caldecott Improvement Project on State Route 24 in Contra Costa and Alameda Counties, California (EA 294900) on the Threatened California Red-Legged Frog, the Threatened Alameda Whipsnake, and Designated Critical Habitat for the Alameda Whipsnake (Service File Number: 1-1-07-F-0292)* dated August 8, 2007, that was prepared by the U.S. Fish and Wildlife Service (Service); (2) an electronic mail message from the Federal Highway Administration (FHWA) dated August 13, 2007, requesting an amendment to the biological opinion; and (3) other information available to the Service.

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Mr. Gene Fong 2

The following changes are made to the August 8, 2007, biological opinion:

1. Change the recipient's address on the first page from:

   Mr. James B. Richards
   California Department of Transportation
   P.O Box 23660
   Oakland, Ca 94623-0660

To:

   Mr. Gene Fong
   Federal Highway Administration
   U. S. Department of Transportation
   650 Capitol Mall, Suite 4-100
   Sacramento, California 95814

2. Add to the Consultation History:

   August 13, 2007 The Service received an electronic mail message from the Federal Highway Administration (FHWA) dated August 13, 2007, requesting an amendment to the biological opinion.

3. Change the following sentence from the "Effect of the Take" section on page 45 from:

   Critical habitat for the Alameda whipsnake is located within the action area. However only a small amount will be adversely modified or destroyed based on the proposed restoration of the areas subject to temporary disturbance.

To:

   Critical habitat for the Alameda whipsnake is located within the action area, however none will not be adversely modified or destroyed by the proposed project.

This concludes the reinitiation of the formal consultation on the Caldecott Improvement Project. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

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If you have any questions regarding this amendment to the biological opinion for the Caldecott Improvement Project, please contact John Cleckler or Chris Nagano of my staff at (916) 414-6625.

Sincerely,

Cay C. Goude
Assistant Field Supervisor

cc:
Jean Hart, Alameda County Congestion Management Agency, Oakland, California
William R. Gray, Gray Bowen, Walnut Creek, California
Paul Maxwell, Contra Costa Transportation Authority, Pleasant Hill, California
Marcia Grefsrud, California Department of Fish and Game, Yountville, California
Janice Gan, California Department of Fish and Game, Yountville, California
Scott Wilson, California Department of Fish and Game, Yountville, California
Joe DiDonato, East Bay Regional Parks District, Oakland, California
Amy Lamson, Federal Highway Administration, Sacramento, California
Cheryl Davis, Margaret Gabil, California Department of Transportation, Oakland, California
Dale Jones, California Department of Transportation, Sacramento, California

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APPENDIX L: WETLAND DELINEATION MAPPING

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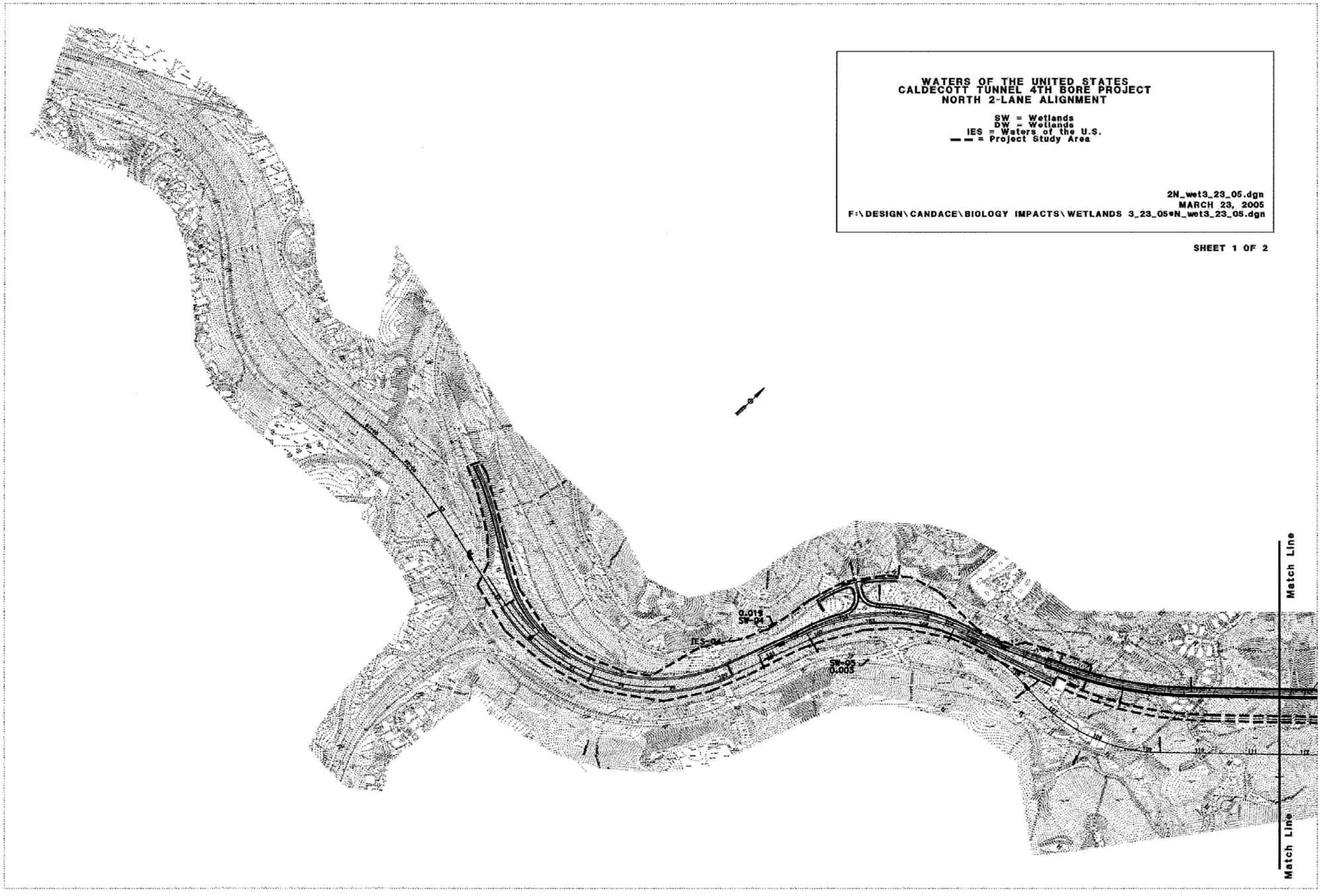
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CALDECOTT TUNNEL 4TH BORE PROJECT
NORTH 2-LANE ALIGNMENT
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DW = Wetlands
IES = Waters of the U.S.
= Project Study Area
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MARCH 23, 2005
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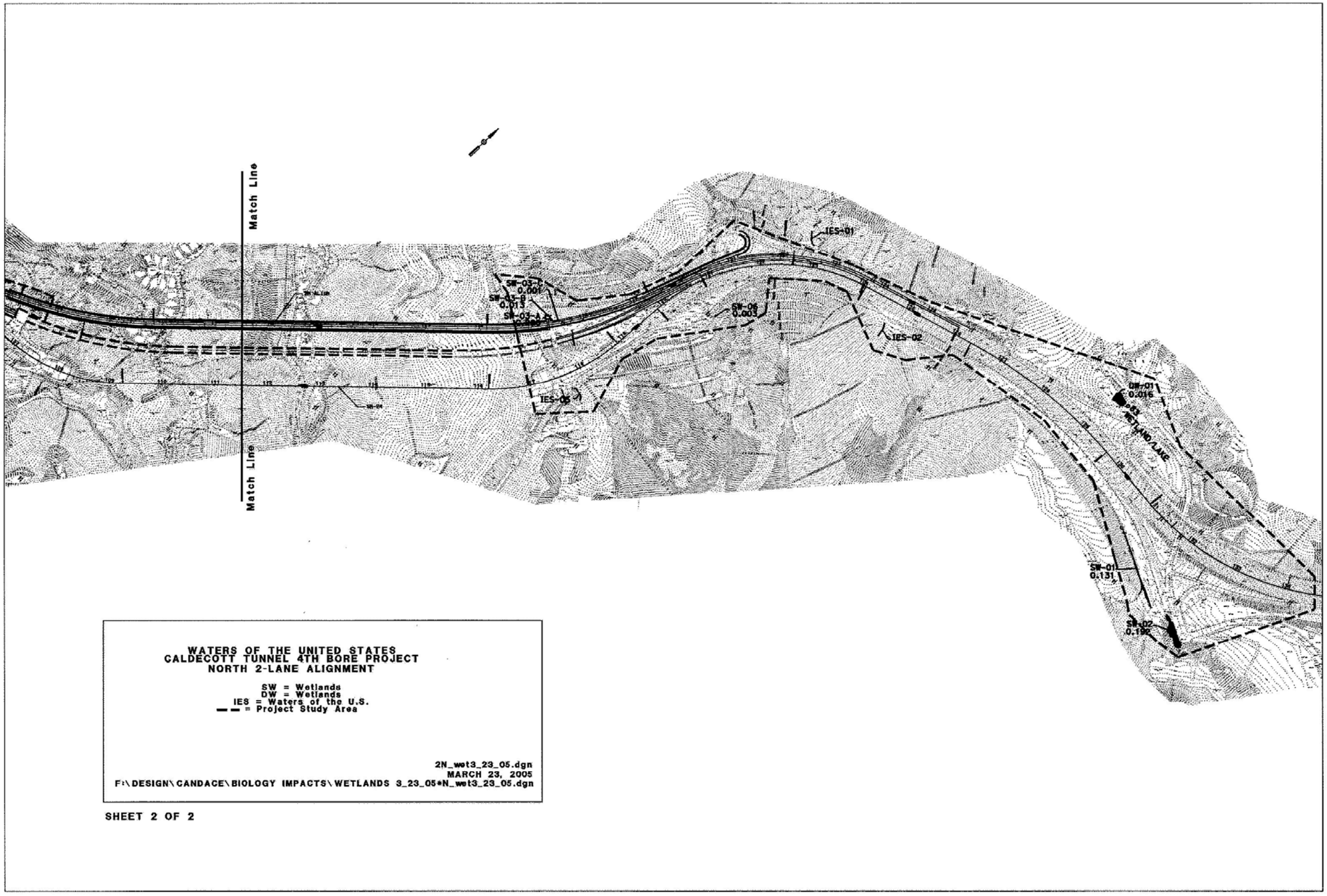
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IES-02
IES-05
SW-03-C
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SW-03-B
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SW-03-A
SW-05
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DW-01
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SW-01
0.131
SW-02
0.192
WETLAND LAKE
WATERS OF THE UNITED STATES
CALDECOTT TUNNEL 4TH BORE PROJECT
NORTH 2-LANE ALIGNMENT
SW = Wetlands
DW = Wetlands
IES = Waters of the U.S.
= Project Study Area
2N_wet3_23_05.dgn
MARCH 23, 2005
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SHEET 2 OF 2

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