

---

**DRAFT ENVIRONMENTAL ASSESSMENT**

*BUENA VISTA WASTER STORAGE DISTRICT  
BV8 STATE WATER PROJECT TURNOUT*

**Appendix B**  
**California Environmental Quality Act Environmental Checklist**

---

August 2010

**APPENDIX B**  
**CEQA ENVIRONMENTAL CHECKLIST FORM**

**A. PROJECT INFORMATION**

**1. Project Title:**

BV8 State Water Project Turnout

**2. Lead Agency Name and Address:**

CEQA Lead Agency

Buena Vista Water Storage District  
P. O. Box 756  
525 North Main Street  
Buttonwillow, CA 93206

NEPA Lead Agency

Bureau of Reclamation  
South-Central California Area Office  
1243 N Street  
Fresno, CA 93721

**3. Contact Person and Phone Number:**

Dan Bartel, Engineer-Manager  
Buena Vista Water Storage District  
(661) 324-1101

Rain Healer, Natural Resources Specialist  
Bureau of Reclamation  
(559) 487-5196

**4. Project Location:**

Southwesterly quarter of Section 9, Township 30 South, Range 24 East, Mount Diablo Meridian (MDM), between the California Aqueduct and the West Side Canal

See Figures 1-1 and 1-2 of the Draft Environmental Assessment/Initial Study for Buena Vista Water Storage District BV8 State Water Project Turnout (EA/IS).

**5. Project Sponsor's Name and Address:**

Buena Vista Water Storage District  
P. O. Box 756  
525 North Main Street  
Buttonwillow, CA 93206

**6. General Plan Designation:** Intensive Agriculture/Flood Hazard

**7. Zoning:** Intensive Agriculture/Flood Hazard

**8. Description of Project:** (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheet(s) if necessary.)

See page 1 of the EA/IS.

**9. Surrounding Land Uses and Setting:** (Briefly describe the project's surroundings.)

See page 2 of the EA/IS.

**10. Other public agencies whose approval may be required** (e.g., permits, financing approval, or participation agreement):

- California Department of Water Resources (Encroachment Permits)
- State Water Resources Control Board (Notice of Intent to Comply with Construction Stormwater Regulations)
- United States Fish and Wildlife Service (Section 7 Consultation)
- Regional Water Quality Control Board (Section 401 Water Quality Certification)
- Bureau of Reclamation (2009 Challenge Grant)
- California Department of Fish and Game (Streambed Alteration Agreement)
- United States Army Corps of Engineers (Section 404 Department of the Army Permit)

**B. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- |   |  |
|---|--|
| <input type="checkbox"/> Aesthetics                         | <input type="checkbox"/> Agriculture Resources     |
| <input type="checkbox"/> Air Quality                        | <input type="checkbox"/> Biological Resources      |
| <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Geology/Soils             |
| <input type="checkbox"/> Hazards & Hazardous Materials      | <input type="checkbox"/> Hydrology/Water Quality   |
| <input type="checkbox"/> Land Use/Planning                  | <input type="checkbox"/> Mineral Resources         |
| <input type="checkbox"/> Noise                              | <input type="checkbox"/> Population/Housing        |
| <input type="checkbox"/> Public Services                    | <input type="checkbox"/> Recreation                |
| <input type="checkbox"/> Transportation/Traffic             | <input type="checkbox"/> Utilities/Service Systems |
| <input type="checkbox"/> Mandatory Findings of Significance |  |

**C. DETERMINATION** (To be completed by the Lead Agency):

On the basis of this initial evaluation:

- ☐ I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- ☐ I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- ☐ I find that the proposed project **MAY** have a "potentially significant" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

---

David F. Scriven  
KRIEGER & STEWART, INCORPORATED  
District Consulting Engineer  
BUENA VISTA WATER STORAGE DISTRICT

---

Date

## **D. EVALUATION OF ENVIRONMENTAL IMPACTS**

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
  - a. Earlier Analyses Used. Identify and state where they are available for review.

- b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7. Supporting Information Sources. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9. The explanation of each issue should identify:
  - a. The significance criteria or threshold, if any, used to evaluate each question; and
  - b. The mitigation measure identified, if any, to reduce the impact to less than significance.

## E. ENVIRONMENTAL CHECKLIST

Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

### I. AESTHETICS. Would the project:

- a) Have a substantial adverse effect on a scenic vista? ☐ ☐ ☐ ☒

*Facilities pursuant to the Project are primarily belowground, and aboveground portions of the proposed facilities are relatively small and unobtrusive. The Project will not adversely impact a scenic vista.*

- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? ☐ ☐ ☐ ☒

*There are no officially designated state scenic highways located in Kern County. There are several eligible scenic highways located in the eastern portion of Kern County; however, the nearest one, State Highway 14, is greater than 60 miles easterly of the Project site. Further, facilities pursuant to the Project will be constructed on land between two man-made surface water channels (the California Aqueduct and the West Side Canal), adjacent to a flood plain. The area is sparsely vegetated, and there are no trees or rock outcroppings present; therefore, the Project does not have the potential to substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.*



Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*Facilities pursuant to the Project will be located on vacant land between the California Aqueduct and the West Side Canal. Said facilities will be primarily belowground, and the aboveground portions will be relatively small and unobtrusive and will be located within and adjacent to the two man-made channels cited above. Any visual impacts resulting from the aboveground portions of the proposed facilities will be less than significant. The Project does not have the potential to substantially degrade the existing visual character or quality of the Project site or its surroundings.*

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project does not include any features that would create substantial new sources of light or glare. Any lighting included in the Project will be for safety and security and will be directed downward.*

Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

**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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance pursuant to the Rural Land Mapping Edition Kern County Important Farmland 2006 maps prepared by the Farmland Mapping and Monitoring Program (FMMP) of the Division of Land Resource Protection, California Department of Conservation, and will not convert any lands so designated to non-agricultural use.*

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project site is zoned Agriculture/Flood Hazard by the Kern County General Plan (2007); however, public utility uses are approved uses in these zoning designations. There is no Williamson Act contract in effect on the parcels that will be disturbed by the Project. The Project does not have the potential to conflict with existing zoning for agriculture or with a Williamson Act contract.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*The Project will result in the permanent conversion of 0.9 acres of land designated as Grazing Land by the FMMP to non-agricultural use. Based on the fact that this area of land is not being used for grazing, and its current use appears to be illegal dumping and off-road vehicle use, BVWSD has determined that the conversion of this area to non-agricultural use is less than significant.*

Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

**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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

*An air quality analysis for the Project is included in Sections 3.8 and 3.9 of the EA/IS. The Project will result in air pollutant emissions during construction and operation; however, said emissions will not conflict with or obstruct implementation of the applicable air quality plan.*

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

*The Project will not violate any air quality standard or contribute substantially to any existing or projected air quality violation. See also III.a. above, and refer to the air quality analysis in Sections 3.8 and 3.9 of the EA/IS.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*The Project region is designated as nonattainment for ozone (federal and state standards), PM<sub>2.5</sub> (federal and state standards), and PM<sub>10</sub> (state standards). The region has been designated attainment for PM<sub>10</sub> under federal standards as of December 12, 2008. For all other criteria pollutants (i.e. CO, NO<sub>x</sub>, SO<sub>2</sub>, SO<sub>x</sub>, and lead), the Project area is designated as attainment. The Project is anticipated to generate air pollutant emissions during construction and operation of Project facilities. Air pollutant emissions resulting from construction vehicles and activities will be less than significant and short-term. Additional vehicle trips to the Project site for operation and maintenance include approximately two trips per day, generally during the District's water year (late May to mid-August), which will not result in significant air quality impacts. The Project will not result in a cumulatively considerable net increase of any criteria pollutant for which the SJVAB Program region is designated nonattainment. Refer also to the air quality analysis included in Sections 3.8 and 3.9 of the EA/IS, which includes an analysis and discussion of greenhouse gas emissions and climate change impacts relevant to the Project.*

d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	--------------------------	-------------------------------------	--------------------------

*The Project will not emit substantial pollutant concentrations. Additionally, the nearest potentially occupied building is located approximately one mile from the Project site.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*The Project will not create objectionable odors.*

Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

**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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|

*Live Oak Associates, Inc. (LOA) surveyed the Project site on July 3, 2008, and their evaluation of biological resources at the site is included in the report, Biological Evaluation for the Buena Vista Water Storage District Aqueduct Turnout Project, Kern County, California (Alternative 4), dated October 7, 2008 (LOA Report). A copy of the LOA Report is available for review at the BVWSD office upon request.*

*LOA subsequently performed additional, species-specific surveys during May through July, 2009 for blunt-nosed leopard lizard, San Joaquin antelope squirrel, San Joaquin kit fox, and burrowing owl. The results of these species-specific surveys are included in a letter report, Biological Surveys of the Proposed Buena Vista Water Storage Districts Proposed Turnout at the California Aqueduct, Kern County, California from LOA to the District, dated July 31, 2009 (LOA Additional Surveys Report), a copy of which is available for review at the BVWSD office upon request.*

*The discussions of biological resources and potential impacts on such resources by the Project included herein are based on information contained in the LOA Report and the LOA Additional Surveys Report cited above. According to these reports, no sensitive species were observed during surveys of the Project area; however, records searches of the California Natural Diversity Database (CNDDDB) and the California Native Plant Society (CNPS) Electronic Inventory indicate the potential presence of sensitive species at the Project site. Mitigation measures and Best Management Practices (BMPs) intended to avoid, or reduce to a level less than significant, adverse impacts upon biological resources are set forth in the Mitigation Monitoring and Reporting Program attached to the Mitigated Negative Declaration in Appendix C of the EA/IS.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*Construction of the reinforced concrete pipe (RCP) component of the Project includes temporary trenching across the Kern River Flood Channel. Once installation of the RCP is complete, the Kern River Flood Channel will be returned to its original condition and grade.*

*Once BV8 facilities are constructed, operation and maintenance of said facilities will not interfere with the Kern River Flood Channel. Therefore, the Project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community.*



Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*A wetland delineation was not conducted at the Project site; however, according to the LOA Report, wetland resources are sparse or absent at the Project site and at the Kern River Flood Channel.*

*As stated in the LOA Report, the Kern River Flood Channel is not identified as a wetland in the Project vicinity; however, USACE and CDFG have each asserted jurisdiction over the Kern River Flood Channel in the past at locations approximately four miles southeast and approximately 22 miles north of the Project site.*

*The Project is not expected to have a substantial adverse effect on federally protected wetlands. BVWSD will submit a Notification of Lake or Streambed Alteration to CDFG and will apply for a Department of the Army Permit from USACE and a Water Quality Certification from the RWQCB, Central Valley Region. The Project will be implemented in conformance with the requirements of the permitting agencies.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*The Project will temporarily disturb approximately 4.1 acres of land, and will permanently disturb approximately 0.9 acre of land, at the Project site. Completed Project facilities will be located primarily belowground and will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites.*

*Additionally, the mitigation measures set forth in the Mitigation Monitoring and Reporting Program for the Project (copy included in Appendix C of the EA/IS), will be implemented in order to ensure that the Project will not substantially impact any native resident or migratory fish or wildlife species or their habitats.*

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project does not conflict with any known local policies or ordinances.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*The following has been excerpted from page 43 of the LOA Report for the Project:*

*"The Kern Water Bank Habitat Conservation Plan/NCCP service area encompasses the proposed Project Site. Other approved habitat conservation plan, natural community conservation plan, regional or state habitat conservation plans are in effect for the area of the proposed project. These include the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP) and the Occidental of Elk Hill Section 7 Consultation (OXY Section 7). The proposed project will not conflict with the operation or goals of the Kern Water Bank HCP/NCCP, MBHCP, and OXY Section 7 therefore; the proposed project will have no effect on such plans."*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--	--------------------------------------	--	------------------------------------	--------------

**V. CULTURAL RESOURCES.** Would the project:

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

*Three Girls and a Shovel, LLC (TG&S) conducted a cultural resources assessment of the Project site, and the findings and conclusions of said assessment are set forth in the report, A Cultural Resources Assessment for Three Possible Locations for a Water Turnout and Underground Pipeline from the California Aqueduct to the West Side Canal, Kern County, California, dated October 2008 and revised April 2010 (TG&S Report), a copy of which is available for review at BVWSD's office upon request. Discussions included in V.a. and V.b. herein are based upon information included in the TG&S Report.*

*The Project's Area of Potential Effects (APE) consists of an area 100 feet wide along the Project's pipeline alignment (fifty feet on each side of the centerline) between the California Aqueduct and the West Side Canal. Although there are no resources within the Project's APE that are listed in the National Register of Historic Places (NRHP), the California Inventory of Historic Places, California State Historic Landmarks, or the California Points of Historic Interest, the TG&S Report identified two historic resources and one historic isolate within the Project's APE.*

*The California Aqueduct and the West Side Canal are each considered historic resources, and have been recorded on appropriate forms. Additionally, the California Aqueduct may be eligible for listing on the NRHP under Criteria A and Criteria C. The West Side Canal may be eligible for listing on the NRHP under Criteria A. Because the Project will not alter the form or function of the California Aqueduct or the West Side Canal, and will not alter, either directly or indirectly, any of the characteristics of these two resources that may qualify them for inclusion in the NRHP, the Project will not adversely affect the California Aqueduct or the West Side Canal.*

*The historic isolate found during the cultural resources survey within the APE is termed Isolate No. 4 and is described in the TG&S Report as follows:*

*"IF #4 is a medicinal bottle dating to pre-1920. It is 4-1/2 inches high, and the bottom diameter is 1-3/4 inches. It is made in a two part mold and has an obvious pontil mark on the bottom with the number '13' and a diamond shape. The word "LISTERINE" is embossed near the top of the bottle, and the words "LAMBERT PHARMACAL COMPANY" and are embossed near the base. The lip at the bottle opening is ground smooth and would have been stoppered with a cork."*

*According to the TG&S Report, the flood plain within the APE has been a dumping ground for many years and it is covered with household trash, old tires, and sheep carcasses. It is likely that a number of historic artifacts could be found in the general area, but as remains of individual dumping incidents, they are of little relevance or importance. Isolate No. 4 has been recorded to the Secretary of the Interior's standards.*

*For the reasons described above, the Project will not cause a substantial adverse change in the significance of any known historical resources; however, pursuant to State CEQA Guidelines Section 15064.5(f), "...a lead agency should make provisions for historical or unique archaeological resources accidentally discovered during construction." Such provisions are set forth in the Mitigation Monitoring and Reporting Program attached to the Mitigated Negative Declaration included in Appendix C of the EA/IS.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Based on the TG&S Report, indigenous peoples are known to have occupied the southern San Joaquin Valley for over 10,000 years, and several archaeological sites have been excavated in the region to depths of 10 to 15 feet. Therefore, the region in which the Project is located (southern San Joaquin Valley) is considered to be highly archaeologically sensitive.*

*One archaeological isolate, Isolate No. 1, was found during the cultural resources survey and was located at the base of the east bank of the Kern River Flood Channel. Isolate No. 1 is described as "an obsidian needle", a naturally formed piece of obsidian approximately 9.2 centimeters long. This artifact is not eligible for listing on the NRHP as it has been removed from its original location and all information potential has been exhausted. Isolate No. 1 has been drawn, photographed, and recorded to the Secretary of the Interior's standards.*

*Further, CEQA Guidelines Section 15064.5(c)(4) states that "if an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment."*

*For the reasons described above, the Project will not result in a significant impact upon any known archaeological resources; however, pursuant to State CEQA Guidelines Section 15064.5(f), "...a lead agency should make provisions for historical or unique archaeological resources accidentally discovered during construction." Such provisions are set forth in the Mitigation Monitoring and Reporting Program attached to the Mitigated Negative Declaration included in Appendix C of the EA/IS.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*A paleontological sensitivity analysis was conducted for the Project and is described in the report, Paleontological Sensitivity Analysis for Buena Vista Water District New Canal Construction, dated November 22, 2008 (Paleontological Analysis), a copy of which is included in Appendix F of the Feasibility Study Report for New Turnout from State Water Project Aqueduct (Kennedy/Jenks Consultants 2008), which is available at the District's office for review upon request.*

*The Paleontological Analysis describes various sediments in the Project area, including near-shore depositional sediments. Of the various depositional environments identified in the Paleontological Analysis, "the near-shore zone is the most likely to contain vertebrate or significant invertebrate fossils. In Ice Age time, animals could have been trapped and preserved in quicksand on the margins of Lake Buttonwillow. Mammoth, bison, horse, and other mammal remains have been found in...other Ice Age lakes in southern California. Fragmentary vertebrate fossil remains, and teeth (rodents) have been found in surface soils throughout the San Joaquin Valley."*

*The near-shore depositional environment that may be impacted by the Project is described in the text, and depicted in Figure 7, of the Paleontological Analysis (Kennedy/Jenks Consultants 2008). Based upon the recommendations of the Paleontological Analysis, a paleontologist will be present during excavations in the near-shore depositional environment zone in order to identify paleontological resources that may be uncovered. Refer to mitigation measures in the Mitigation Monitoring and Reporting Program attached to the Mitigated Negative Declaration included in Appendix C of the EA/IS.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*Project facilities will not be constructed in the vicinity of any known cemeteries or burial grounds; however, if human remains are encountered during construction, the County Coroner will be notified immediately, and all work in the area will be halted or diverted until a qualified archaeologist and historian can evaluate the nature and significance of the find(s). The Project will comply with §15064.5 of the State CEQA Guidelines. Refer also to Mitigation Measure "CUL 3: Discovery of Human Remains" in the Mitigation Monitoring and Reporting Program attached to the Mitigated Negative Declaration in Appendix C of the EA/IS for the Project.*



Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

**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. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

*Based on the California Department of Conservation Division of Mines and Geology publication Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada (1998) and Division of Mines and Geology Special Publication 42, BVWSD's Service Area is not located within a known fault zone. The nearest fault is the White Wolf Fault, which is located approximately six miles southeasterly of the Maples Service Area. The San Andreas Fault (Parkfield) is located greater than twenty miles westerly of the Buttonwillow Service Area. The Project does not include any activities that could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, liquefaction, or landslides.*

- |                                    |                          |                          |                          |                                     |
|------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| ii) Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|

*See VI.a.i. above.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>See VI.a.i. above.</i>				
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>See VI.a.i. above.</i>				
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*The Project does not include any activities that would have the potential to result in any soil erosion or loss of topsoil. Refer also to the mitigation measure "BIO 1: Special Status Plant Species", which includes measures involving salvaging topsoil. BIO 1 is included in the Mitigation Monitoring and Reporting Program attached to the Mitigated Negative Declaration in Appendix C of the EA/IS.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*Project facilities are located on soils classified as Buttonwillow clay, drained (map unit symbol 123) and Garces silt loam (map unit symbol 156), according to the United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey, data generated on 12/31/2009.*

*The Project does not include construction of any facilities that are intended for human occupation. Facilities pursuant to the Project will not be located on a geologic unit or soil that is unstable or that would become unstable as a result of said facilities. The Project is not expected to result in loss, injury, or death involving onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.*

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	--------------------------	-------------------------------------	--------------------------

*According to the Soil Survey of Kern County, California, Northwestern Part, issued by the United States Department of Agriculture Soil Conservation Service (September 1988), Buttonwillow clay, drained is a fine-textured soil with high shrink-swell potential, while Garces silt loam is not known to be expansive. Although Buttonwillow clay, drained is known to have expansive properties, the facilities proposed pursuant to the Project do not include construction of any facilities that are intended for human occupation and will not create substantial risks to life or property.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*The Project will not generate any sanitary wastewater, and no septic tanks or alternative wastewater systems are proposed.*

Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

## 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project does not involve the generation of any hazardous emissions or the transport, use, storage, or disposal of any hazardous materials.*

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project does not involve the storage or use of hazardous materials and will not 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.*

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. The Project site is not located within one-quarter mile of an existing or proposed school.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*The Project site is not located on or adjacent to a site which is included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, as available on [www.envirostor.dtsc.ca.gov](http://www.envirostor.dtsc.ca.gov), which is a publicly-accessible database maintained by the California Department of Toxic Substances Control. The Project will not be impacted by hazardous materials sites.*

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	-------------------------------------

*The nearest public airport is the Buttonwillow-Kern County Airport, which is located in Section 2, Township 30 South, Range 23 East, MDM, approximately 3.5 miles northwesterly of the Project site. The Project does not include the construction of any facilities or any activities that could pose a safety hazard for people residing or working in the Project area. The Project does not have the potential to interfere with air traffic or flight patterns.*

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project will not result in a safety hazard for people residing or working in the Project Area. See also VII.e. above.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*The Project has no potential to affect any known emergency response or evacuation plan.*

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	--------------------------	-------------------------------------	--------------------------

*Apart from an insignificant risk of fire from construction activities, the Project has no potential to expose people or structures to a significant risk of loss, injury, or death involving wildland fires.*

Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

**VIII. HYDROLOGY AND WATER QUALITY.**

Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

*In implementing the Project, the District will comply with all applicable water quality standards, waste discharge requirements, and the requirements of the Central Valley Regional Water Quality Control Board.*

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project does not include the extraction or use of groundwater and will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge.*



Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*The Project site is mostly located in Zone X, which is defined as "areas determined to be outside the 0.2% annual chance floodplain". The northernmost portions of facilities pursuant to the Project, which cross beneath the Kern River Flood Channel and are adjacent to, or in, the West Side Canal right-of-way are located in areas designated Zone A, which is defined as Special Flood Hazard Areas Subject to Inundation by the 1% Annual Chance Flood (100-Year Flood), with No Base Flood Elevations Determined. Flood zones and definitions were obtained from the Flood Insurance Rate Map, Map Number 06029C2225E, effective September 26, 2008, prepared by the U.S. Department of Homeland Security, Federal Emergency Management Agency. The Project does not include any features that would substantially alter existing drainage patterns in the site or area.*

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project will not substantially alter the existing drainage pattern of the site or area and will not substantially increase the rate or quantities of surface runoff. See also VIII.c. above.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*Facilities included in the Project are primarily belowground. Aboveground facilities include the reinforced concrete turnout on the California Aqueduct, the outlet structure in the West Side Canal (including rip-rap in the discharge area), and the electrical building and its appurtenances. Aboveground facilities are not of a size sufficient to contribute substantial quantities of runoff; therefore, the Project will not create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. See also VIII.c. and VIII.d. above.*

f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	-------------------------------------	--------------------------

*Standard construction best management practices (BMPs) will be incorporated during construction in order to avoid, or reduce to a level of insignificance, adverse impacts that may occur from soil erosion, storm water runoff, or both, as a result of construction activities pursuant to the Project. Therefore, the Project will not substantially degrade water quality. A list of the District's standard construction BMPs is available from the District upon request. The Project will comply with all water quality requirements of the State Water Resources Control Board and the Central Valley Regional Water Quality Control Board.*

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project does not include construction of housing or other structures intended for human occupation.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*The Project does not include placement of any structures that would impede or redirect flood flows in a 100-year flood hazard area. See also VIII.c. and VIII.e. above.*

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project does not include the construction or modification of any facilities that would have the potential to expose people or structures to loss, injury, or death as a result of flooding.*

j) Expose people or structures to inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project does not include construction of any facilities that are intended for human occupation. Further, the Project area is not located near any bodies of water of a size sufficient to result in seiches or tsunamis. The Project will not expose people or structures to inundation by seiche, tsunami, or mudflow.*

Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

**IX. LAND USE AND PLANNING.** Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project does not include the construction of facilities with the potential to divide an established community.*

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

*The Project does not have the potential to alter existing land uses and does not conflict with any applicable land use plan, policy, or regulation.*

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

*See IV.f. herein.*

Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

**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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

*There are no known mineral resources at the Project site. The Project does not have the potential to impact the availability of any mineral resources or mineral resource recovery sites.*

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

*See X.a. above.*

Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

**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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

*The Project will result in noise generated during construction and operation of BV8 facilities. Construction noise will be less than significant and short-term. Noise generated during operation will result from approximately two vehicle trips by District personnel to the BV8 facilities per day. Noise generated during operation will be minimal and less than significant. All noise resulting from the Project will comply with the Noise Element of the Kern County General Plan (2009) and with the noise control provisions set forth in Chapter 8.36 of the Ordinance Code of Kern County.*

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project will not generate excessive levels of groundborne vibration or groundborne noise. The nearest potentially occupied building is approximately one mile away from the Project site, and any groundborne noise or groundborne vibration generated during construction activities is not likely to be perceptible at that distance from the site.*

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

*Noise resulting from operation and maintenance of the Project facilities will consist of noise generated by approximately two vehicle trips by District personnel to the BV8 facilities on each operational day and will be less than significant. See also XI.a. above.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*The nearest public airport is the Buttonwillow-Kern County Airport, which is located in Section 2, Township 30 South, Range 23 East, MDM, approximately 3.5 miles northwesterly of the Project site. The Project will not expose people residing or working in the area to excessive noise levels. See also XI.a. above.*

e) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project will not generate any substantial noise, and will not expose people residing or working in the area to excessive noise levels.*

Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

**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 road or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project is intended to improve the District's operational flexibility and will have no effect on population growth.*

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project does not include any features that will require the destruction or relocation of existing housing or the construction of replacement housing.*

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project does not include destruction or construction of any housing, and will not increase or decrease the number of available dwelling units in the area. The Project will not displace any people.*



Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

**XIII. PUBLIC SERVICES.** Would the project:

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

Fire protection?

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

*The Project does not include any features or facilities that will require additional or unusual fire protection resources.*

Police protection?

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

*The Project does not include any features or facilities that will be occupied or that will otherwise require enhanced levels of police protection.*

Schools?

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

*The Project does not have the potential to increase or decrease the area's population, and will therefore not result in a greater or lesser demand for schools.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*The Project does not have the potential to increase or decrease the area's population, and will therefore not result in a greater or lesser demand for parks.*

Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project will not adversely affect any public facilities.*

Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

**XIV. RECREATION.** Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project does not have the potential to increase or decrease the area's population, and will therefore not result in increased or decreased use of parks or other recreational facilities.*

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project does not include recreational facilities and will not require the construction or expansion of any recreational facilities.*

Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

**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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

*There will be a temporary increase in traffic during construction of the Project facilities, which will be minimal and short-term. Operation of facilities pursuant to the Project is expected to result in two vehicle trips by District personnel per day to the site. Vehicle trips will generally take place on operational days during the District's water year, which typically extends from late May through mid-August.*

*Traffic resulting from the Project will not increase substantially in relation to the existing traffic load and capacity of the street system. The Project will not result in any substantial changes in land, water, or air traffic patterns.*

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project does not include any features which would significantly impact traffic patterns or which would exceed any level of service standards established for designated roads or highways. See also XV.a. above.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*The Project will have no impact upon air traffic patterns.*

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project will have no impact upon street design and will not substantially increase hazards due to design features or incompatible uses.*

e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project will have no impact on emergency access in the area. See also XV.d. above.*

f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project will have no impact on parking capacity in the area. Existing rights-of-way and access roads will allow for parking as needed for operation and maintenance visits to the Project facilities.*

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project will not conflict with any adopted policies, plans, or programs supporting alternative transportation.*

Issues:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

**XVI. UTILITIES AND SERVICE SYSTEMS.** Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project will not generate wastewater.*

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

*The Project will not require or result in construction of new water or wastewater treatment facilities or the expansion of existing facilities.*

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

*The Project will not require or result in the construction or expansion of any storm water drainage facilities.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*The Project consists of constructing and operating new turnout facilities to convey water from the California Aqueduct to the West Side Canal. SWP water that will be conveyed during operation of the Project facilities is that which is included in the District's existing agreements for SWP water. No new or expanded entitlements are needed. The Project will provide the District additional distribution system flexibility in using existing contracted SWP water.*

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

*The Project will not generate sanitary wastewater.*

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	-------------------------------------

*Small quantities of solid waste may be generated during construction of facilities pursuant to the Project; however, said quantities of solid waste will be minimal and will be accommodated by a local landfill.*

g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project will comply with all federal, state, and local statutes and regulations related to solid waste. See also XVI.f. above.*

Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
--	--------------------------------------	--	------------------------------------	--------------

## XVII. MANDATORY FINDINGS OF SIGNIFICANCE

- |  |                          |                                     |                          |                          |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a) Does the project have the potential to substantially 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, substantially reduce the number or restrict the range of a rare or threatened species or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|

*If unmitigated, the Project may significantly impact biological, cultural, or paleontological resources; therefore, mitigation measures intended to avoid, or reduce to a level less than significant, adverse impacts to biological, cultural, and paleontological resources are set forth in the Mitigation Monitoring and Reporting Program attached to the Mitigated Negative Declaration in Appendix C of the EA/IS. With incorporation of said mitigation measures, the Project is not expected to have a significant effect upon the environment. See also Sections IV and V herein.*



Issues:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*The Project is not expected to result in any cumulatively considerable impacts. Mitigation measures intended to avoid, or reduce to a level less than significant, adverse impacts upon biological resources, cultural resources, and paleontological resources are incorporated into the Project. The Project is not expected to result in any cumulatively considerable impacts. A more detailed discussion of cumulative impacts is included in Section 3.10 of the EA/IS.*

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	-------------------------------------

*The Project is intended to improve operational flexibility and water use efficiency within the District's distribution system. The Project does not include any actions or facilities that will have adverse effects upon human beings.*

---

**DRAFT ENVIRONMENTAL ASSESSMENT**

*BUENA VISTA WASTER STORAGE DISTRICT  
BV8 STATE WATER PROJECT TURNOUT*

**Appendix C**

**Draft Mitigated Negative Declaration and Mitigation Monitoring  
and Reporting Program**

---

August 2010

## **DRAFT MITIGATED NEGATIVE DECLARATION**

### **BUENA VISTA WATER STORAGE DISTRICT BV8 STATE WATER PROJECT TURNOUT**

**Project:** The BV8 State Water Project Turnout (BV8 or Project) consists of constructing and operating new turnout facilities between the California Aqueduct and the West Side Canal. BV8 facilities consist of the following:

- Constructing a belowground reinforced concrete pipe (RCP) of approximately 1,510 feet in length and 78-inches in diameter, extending between the California Aqueduct and the West Side Canal. The RCP will include a pitot tube near the California Aqueduct, a 66-inch butterfly valve near the West Side Canal, and either a 78-inch magnetic flow meter or Venturi meter within a reinforced concrete vault near the California Aqueduct.
- Constructing a reinforced concrete turnout on the California Aqueduct. The new turnout will be approximately 20 feet tall, 19 feet wide, and 54 feet long and will include a 78-inch cast iron sluice gate with automatic actuator, trash racks, and galvanized steel handrails.
- Work within the California Aqueduct will require placement of a cofferdam to allow water flow to continue in the Aqueduct during construction of the BV8 facilities. The cofferdam will be left in place for approximately 3 months, reducing maximum flow by approximately 50 percent over the 3-month time period.
- Constructing an outlet structure in the West Side Canal, upstream of the Arizona Canal. The discharge bay of the outlet structure is approximately 17 feet wide, 25 feet long, and 14 feet tall. To reduce erosion, the discharge area around the outlet structure will be reinforced with approximately 167 cubic yards of 12-inch thick rock rip-rap above a 6-inch gravel bed. The outlet structure will have galvanized steel handrails.
- Constructing a 10-foot by 12-foot concrete electrical building on the eastern side of the RCP, within approximately 100 to 200 feet of the California Aqueduct inlet structure. The building will include a 0.18 acre elevated graded pad for access from the existing California Aqueduct road.
- Installing an 8-inch vent riser adjacent to the electrical building within approximately 100 to 200 feet of the California Aqueduct inlet structure. The standpipe would be approximately 9 feet in height above ground level.

Project facilities may be operated at any time as deemed necessary by BVWSD and pursuant to the District's SWP agreements. BV8 facilities are expected to operate primarily during the District's water year, which typically extends from late May through mid-August. During operational days, BVWSD plans to send personnel to the BV8 site twice daily to adjust the valves and read the meter. BVWSD will manage any resultant conserved water supplies through programs with in-District entities, out-of-District entities, or a combination thereof.

**Location:** The Project is located within Section 9, Township 30 South, Range 24 East, Mount Diablo Meridian, Kern County, California. Project facilities will be located between the California Aqueduct and the West Side Canal, as shown in Figures 1 and 2, copies of which are included with each copy of the Environmental Assessment/Initial Study for the Project.

**Entity:** Buena Vista Water Storage District

The Board of Directors, having conducted a careful and independent review of the Environmental Assessment/Initial Study for the Project, having reviewed the written comments received prior to the public meeting of the Board, and having heard at a public meeting of the Board the comments of any and all concerned persons or entities including the recommendation of District staff, does hereby find and declare that the Project will not have a significant effect on the environment. A brief statement of the reasons supporting the Board's findings is as follows:

Construction and operation of the Project as modified will not result in significant adverse impacts upon any threatened or endangered species of plants or animals, nor will it result in damage to or destruction of any significant examples of California history or prehistory. Potential impacts upon Federal and State protected species and their habitat(s) will be prevented by adhering to the terms of a Mitigation Monitoring and Reporting Program (see Exhibit A, attached, which is incorporated herein by reference) throughout construction of the Project.

The Board of Directors hereby finds that the Mitigated Negative Declaration reflects its independent judgment. The Environmental Assessment/Initial Study was prepared by Rain L. Healer with the Bureau of Reclamation and David F. Scriven with Krieger & Stewart, the District's Consulting Engineer. A copy of the Environmental Assessment/Initial Study is attached and may also be obtained at the offices of the Buena Vista Water Storage District, located at 525 North Main Street, Buttonwillow, CA 93206.

DATED: \_\_\_\_\_

\_\_\_\_\_  
Dan Bartel, Engineer-Manager  
BUENA VISTA WATER STORAGE DISTRICT

**EXHIBIT A TO THE MITIGATED NEGATIVE DECLARATION**  
**MITIGATION MONITORING AND REPORTING PROGRAM**  
**BV8 STATE WATER PROJECT TURNOUT**

**Section I - Introduction**

Section 21081.6 of the California Environmental Quality Act (CEQA) requires a mitigation monitoring program be prepared prior to the approval of any project which incorporates mitigation measures as a condition of approval. Mitigation measures are generally adopted to reduce the potentially significant adverse environmental impacts of a project to a less than significant level. The mitigation monitoring program must ensure compliance with mitigation measures during project construction (and, if applicable, during operation). Since the Project considered by the Draft Environmental Assessment/Initial Study for Buena Vista Water Storage District's BV8 State Water Project Turnout (Project) incorporates mitigation measures as a condition of approval, this mitigation monitoring and reporting program has been prepared and incorporated into the Mitigated Negative Declaration for the Project.

**Section II – Biological Resources Mitigation Measures and Mitigation Monitoring Program**

Live Oak Associates, Inc. (LOA) performed a biological resources assessment of the Project site and subsequently performed several species-specific surveys at the site. Reports prepared by LOA describing their methods, findings, and recommendations related to biological resources are available upon request at the office of Buena Vista Water Storage District (BVWSD).

Based upon the findings and recommendations contained in the LOA reports cited above, the following mitigation measures (Nos. 1 through 10) will be implemented in order to ensure that construction of facilities pursuant to the Project does not result in a significant adverse impact upon sensitive species or their habitats. Each measure is attended by a notation of the party responsible for its implementation and of the period for which it will be in effect.

1. **BIO 1: Recurved larkspur (*Delphinium recurvatum*) and oil neststraw (*Stylocline citroleum*) are listed by California Department of Fish and Game (CDFG) as Species of Special Concern and are also included on CNPS List 1B (plants rare, threatened, or endangered in California or elsewhere).**

Although not detected onsite during biological field surveys, the Project site contains habitat suitable for recurved larkspur and oil neststraw, and these species were identified in a records search of the CNDDDB as having been previously identified in the general vicinity of the Project site.

The District will implement the following measures in order to avoid, or reduce to a level less than significant, Project impacts upon special status plant species.

- Prior to initiating construction activities pursuant to the Project, a qualified biologist or botanist will conduct a pre-construction survey of the Project site during the appropriate phenological period (April through June).
- During clearing of the construction right-of-way (ROW), the upper three inches of soil (topsoil) will be salvaged and temporarily stockpiled separately from the remainder of material excavated during construction.
- Upon completion of construction, the salvaged topsoil, and its accompanying seedbank, will be redistributed over the construction site, thus disseminating the original seedbank over the construction area.
- During surveying and staking the construction ROW, a qualified biologist or botanist will accompany the surveyors, and any special status plant species identified will be delineated in the field with tape flagging and construction lath, with an appropriate buffer area as determined by the biologist or botanist. Where practicable, the District will avoid removal of vegetation within 50 feet of any special status plant species.

If it is not possible to avoid impacts to special status plant species during implementation of the Project, then the District will seek guidance from CDFG prior to disturbing any special status plant species.

**Responsible Party:** District Representative (see BMP 10 under BIO 10)

**Implementation Period:** Prior To and During Project Construction

2. **BIO 2: Construction of the Project facilities will disturb approximately 3 acres of ruderal non-native grassland. Additionally, an area of approximately 0.3 acre of saltbrush scrub within the California Aqueduct ROW will be permanently removed. Removal of vegetation will temporarily or permanently remove habitat that is potentially foraged by up to 10 special status animal species.**

To offset impacts resulting from removal of 3 acres of ruderal non-native grassland vegetation that could be used for foraging by special status animal species, BVWSD will designate compensatory habitat at either the Coles Levee Ecosystem Preserve or the Kern Water Bank. Said compensatory habitat will be designated at a ratio of 1.1 to 1, for a total of 3.3 acres. Removal of 0.3 acre of saltbrush scrub in the California Aqueduct ROW will be offset by designation of compensatory habitat at a ratio of 3 to 1, for a total of 0.9 acres. Therefore, total compensatory habitat to be designated is 4.2 acres.

**Responsible Party:** District Engineer-Manager

**Implementation Period:** Prior To, During, or After Project Construction

**3. BIO 3: Burrowing owl (*Athene cunicularia*) is listed as a California Species of Special Concern by CDFG and, along with other nesting raptors, is protected by the Migratory Bird Treaty Act (MBTA) of 1918.**

Although no burrowing owls or other raptors were detected during field surveys of the Project site, suitable nesting habitat for burrowing owls (i.e., ground squirrel burrows), as well as evidence that burrowing owls have visited the site in the past (i.e., castings, whitewash, and prey remains at one abandoned ground squirrel burrow), is present onsite. Activities that would result in abandonment of an active raptor nest or burrow, or direct mortality of an individual raptor, would constitute a significant impact. The following measures will be implemented in order to avoid or reduce adverse impacts upon nesting raptors to a level less than significant.

- If construction will commence during the breeding season of February 1 through August 31, a qualified biologist or ornithologist will conduct pre-construction surveys for ground- and tree-nesting raptors (including burrowing owls) at the Project site, in accordance with accepted survey protocols.
- If raptors are identified onsite or in the vicinity of the Project site during the pre-construction surveys, then an appropriate construction buffer area will be determined by the biologist/ornithologist, and the buffer area will be demarcated and avoided during construction. If it is not practicable to avoid said buffer areas during construction, then CDFG will be consulted for appropriate action prior to disturbance within the buffer areas.
- If no raptors are identified during the pre-construction surveys, then construction may commence without further mitigation for nesting raptors.
- If construction will commence during the non-breeding season of September 1 through January 31, a qualified biologist or ornithologist will conduct pre-construction surveys for burrowing owls at the Project site, in accordance with accepted survey protocols.
- If burrowing owls are not detected onsite or in the vicinity of the site, then construction may commence without additional mitigation for burrowing owls.



- If burrowing owls are detected during the preconstruction surveys, then they may be passively relocated by placing one-way doors in the burrows and leaving them in place for a minimum of three days. Once the biologist/ornithologist has determined that all burrowing owls have vacated the site, then construction may proceed.

**Responsible Party:** District Representative

**Implementation Period:** Prior to Project Construction

4. **BIO 4: San Joaquin kit fox (*Vulpes macrotis mutica*) is listed as endangered by USFWS and as threatened by CDFG. Although no evidence of San Joaquin kit fox (SJKF) occupation of the Project site was detected during field surveys, a records search indicated SJKF had been observed in the area.**

SJKF may forage at the Project site or vicinity, and may establish dens in the area. Construction activities associated with the Project have the potential to injure or kill SJKF through crushing of burrows, entombment within burrows, and direct impacts from construction vehicles and equipment.

The following measures will be implemented in order to avoid or reduce impacts to SJKF to a level less than significant.

- A pre-construction survey for SJKF will be performed by a qualified biologist, and all known, potential, and natal dens will be identified and treated in accordance with U.S. Fish and Wildlife Service Standardized Recommendations for the Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance, June 1999, prepared by the Sacramento Fish and Wildlife Office, a copy of which is included in the LOA Report (available from BVWSD upon request).
- Any occupied known SJKF den will be surrounded by a 100-foot buffer area, and both den and buffer area will be avoided during construction activities. Construction pursuant to the Project may continue outside of the buffer area.

- Any occupied natal den will be surrounded by a 500-foot buffer area, and both den and buffer area will be avoided during construction activities. Construction pursuant to the Project may continue outside of the buffer area.
- If avoidance of occupied known or natal SJKF dens cannot be achieved through construction timing or buffer areas, then the District will consult with USFWS and CDFG for appropriate action, such as permission to relocate SJKF from the dens. No occupied known or natal SJKF dens or SJKF individuals will be disturbed until USFWS and CDFG have provided guidance and have issued appropriate "take" authorization.
- Temporary and permanent impacts to habitat suitable for SJKF will be mitigated by designation of habitat conservation credits in a conservation bank approved by USFWS and CDFG.

**Responsible Party:** District Representative and District Engineer-Manager

**Implementation Period:** Prior to Project Construction

5. **BIO 5: Le Conte's thrasher (*Toxostoma lecontei*) is a California Species of Special Concern and is also protected under provisions of the MBTA and the California Fish and Game Code. Le Conte's thrasher has been observed within 2 miles of the Project site, and habitat suitable for Le Conte's thrasher is present onsite in the form of saltbush scrub present in the California Aqueduct ROW. Le Conte's thrasher mortality resulting from the Project would constitute a significant environmental impact and a violation of state and federal laws. The following measures will be implemented by the District in order to avoid or reduce adverse impacts upon Le Conte's thrasher to a level less than significant.**

- If practicable, construction pursuant to the Project will commence outside of the Le Conte's thrasher nesting/breeding season, which begins in late January and extends through early June. Project activities conducted in July through December are not expected to result in impacts to nesting Le Conte's thrashers.

- If construction activities are anticipated to commence within the nesting/breeding period of January through June, a pre-construction survey of the Project site will be performed by a qualified biologist or ornithologist within 30 days prior to commencement of construction activities.
- N** If the preconstruction survey determines that no Le Conte's thrashers are nesting on or within the vicinity of the Project site, then construction may proceed.
- N** If an active Le Conte's thrasher nest is located within the Project site or area, then a 250-foot radius buffer area will be established around the nest, and the nest and buffer area will be avoided and left undisturbed until the young Le Conte's thrashers have fledged or until the nest is abandoned. A buffer zone smaller than a 250-foot radius may be established by a qualified biologist or ornithologist based on location of the nest and the type and schedule of planned construction activities. Le Conte's thrashers typically fledge 12 to 20 days after hatching.

**Responsible Party:** District Representative

**Implementation Period:** Prior to Project Construction

- 6. BIO 6: American badger (*Taxidea taxus*) is considered a California Species of Special Concern and occurs in a variety of open habitats, including grasslands, shrublands, savannahs, and meadows. American badgers were not observed onsite during surveys by LOA, and the CNDDDB did not identify any previously-recorded observations of American badger within a 3-mile radius of the Project site.**

American badger is known to occupy non-native grassland within the region, and it has the potential to forage over the Project site or to be a transient in the area. The following measures will be implemented by the District in order to avoid or reduce adverse impacts upon American badger to a level less than significant.

- If one or more American badger burrows are located during the pre-construction surveys for SJKF (or other pre-construction surveys), then the American badger burrow(s) will be monitored for three consecutive nights using the same methods used to monitor SJKF dens.

- If the American badger burrows are found to be unoccupied, then they will be plugged, and no further mitigation for American badger will be required.
- If the American badger burrows are found to be occupied, then CDFG will be consulted prior to disturbing any occupied American badger burrow. With permission from CDFG, the burrow(s) will be carefully excavated, and the badger(s) will be allowed to escape.

**Responsible Party:** District Representative

**Implementation Period:** Prior to Project Construction

**7. BIO 7: Blunt-nosed leopard lizard (*Gambelia sila*) is listed as Endangered by both USFWS and CDFG. Habitat suitable for blunt-nosed leopard lizards (BNLL) is present at the Project site. The following measures will be implemented in order to avoid, or reduce to a level less than significant, adverse impacts to BNLL:**

- Prior to commencement of construction at the Project site, qualified biologists will conduct spring surveys to determine the presence of BNLL on the Project site or in the vicinity. These surveys will be conducted in accordance with Approved Survey Methodology for the Blunt-Nosed Leopard Lizard (CDFG 2004). The surveys will be conducted between April 15 and July 15. During this 90-day period, a minimum of eight surveys will be conducted prior to disturbance for maintenance activities, and a minimum of twelve surveys will be conducted prior to habitat removal.
- If the surveys result in a negative finding for the presence of BNLL, then BVWSD will submit a report to CDFG, prior to commencing construction, detailing the results of the surveys.

- If the surveys result in a positive finding for BNLL at the site, then BVWSD will submit a report to CDFG detailing the results of the surveys. BVWSD will commence construction only after appropriate mitigation measures have been developed in consultation with CDFG. BVWSD will incorporate all mitigation necessary to avoid significant adverse impacts upon BNLL.

**Responsible Party:** District Representative

**Implementation Period:** Prior to Project Construction

**8. BIO 8: The San Joaquin antelope squirrel (*Ammospermophilus nelsoni*) is listed as Threatened by CDFG. Suitable habitat for San Joaquin antelope squirrel (SJAS) is present on the Project site.**

Based on surveys conducted at the Project site, LOA concluded that SJAS were not present on the Project site. LOA notes, however, that SJAS have been identified within one mile of the Project site, in the California Aqueduct ROW. Therefore, the following measures will be implemented by the District in order to avoid or reduce adverse impacts upon SJAS to a level less than significant:

- Surveys to determine the presence of SJAS will be conducted concurrent with the surveys that will be conducted to determine the presence of BNLL at the Project site. The survey parameters specified for BNLL are also within the parameters for aboveground activity by SJAS.
- Upon completion of the SJAS surveys, BVWSD will submit a survey report to CDFG.
- If the SJAS surveys result in a negative finding for the presence of SJAS within the Project site, then construction may commence with no further mitigation for SJAS.

- If the SJAS surveys result in a determination that SJAS is present onsite or in the vicinity, then BVWSD will commence construction only after consulting with CDFG to develop appropriate impact avoidance measures and receiving CDFG's authorization to proceed.

**Responsible Party:** District Representative

**Implementation Period:** Prior to Project Construction

9. **BIO 9: A wetland delineation was not conducted at the Project site; however, wetland resources are sparse or absent at the Project site and at the Kern River Flood Channel (KRFC). According to the LOA Report, the KRFC is not identified as a wetland in the Project vicinity; however, the United States Army Corps of Engineers (USACE) and CDFG have each asserted jurisdiction over the KRFC in the past at locations approximately four miles southeast and approximately 22 miles north of the Project site.**

Prior to commencement of construction activities within the bed or banks of the KRFC, the District will apply for and obtain (unless permitting agency states that a permit is not required) all permits necessary for construction of facilities pursuant to the Project. The District expects to apply for the following permits:

- Streambed Alteration Agreement (Section 1601) from CDFG
- Department of the Army Permit (Section 404) from USACE
- Section 401 Water Quality Certification (or waiver) from the Regional Water Quality Control Board, Central Valley Region (RWQCB)
- Encroachment Permit (to tie in to the California Aqueduct) from DWR
- Encroachment Permit (to work on the KRFC levees) from DWR's Floodway Protection Division

**Responsible Party:** District Engineer-Manager

**Implementation Period:** Prior to Project Construction

## **10. BIO 10: Best Management Practices**

District implementation of the following BMPs is intended to avoid or reduce significant adverse impacts upon sensitive species and habitats during construction activities at the Project site.

### **BMP 1**

Prior to commencement of construction, a qualified wildlife biologist will conduct a sensitive species education program ("tailgate briefing") for all personnel involved with construction pursuant to the Project. Topics that will be discussed during the tailgate briefing include the occurrence and distribution of sensitive species in the Project area, take avoidance measures to be implemented during construction, reporting requirements in the event that incidental take occurs, and applicable definitions and prohibitions under the Endangered Species Act.

### **BMP 2**

One or more biological monitors will be onsite during all ground-disturbing activities within sensitive habitats. While onsite, the biological monitor(s) will aid construction crews in implementing mitigation measures and satisfying take avoidance criteria.

The biological monitor(s) will also assist in minimizing adverse effects of construction activities on sensitive species and will document all pertinent information concerning impacts of construction on sensitive species and habitats.

### **BMP 3**

Biological monitors are empowered to halt or divert construction activities in order to protect sensitive species or if take avoidance measures or mitigation measures are being violated. If this occurs, a biological monitor will notify BVWSD's District representative (refer to BMP 10 below). Construction activities may resume only with written or verbal approval from BVWSD.

#### **BMP 4**

Unless biological monitors allow alterations to construction routes, all construction-related vehicles and equipment, including workers' private vehicles, will remain on existing roads or previously designated access routes.

#### **BMP 5**

All observed sensitive species and their habitat features, such as dens, burrows, or specific habitats, will be flagged as necessary to alert construction personnel to their presence. All flagging will be collected and removed upon completion of construction.

#### **BMP 6**

To prevent inadvertent entrapment of species, excavation will include only that amount of trenching that will allow for installation of the pipeline and backfill within a single workday. If this is not possible, then all open holes, steep-walled holes, or trenches more than two feet deep will be covered at the close of each working day with plywood or other similar materials, or provided with one or more ramps constructed of earthen fill or wooden planks. Wooden planks will be no less than ten inches in width and will reach the bottom of the trench. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals.

#### **BMP 7**

Any spills of hazardous materials (e.g., gasoline) will be cleaned up immediately.

#### **BMP 8**

Pets and firearms will be prohibited on the construction site.



#### **BMP 9**

All food-related trash (such as wrappers, cans, bottles, bags, and food scraps) will be disposed of daily in containers with secure covers and will be removed from the Project site regularly.

#### **BMP 10**

BVWSD will appoint a District representative who will be the contact for any employee, contractor, or other personnel who inadvertently kills or injures a special status species or who finds a dead, injured, or trapped special status species. The District representative will be identified during the preconstruction educational "tailgate briefing".

#### **BMP 11**

All construction-related vehicles will observe a maximum speed of 25 miles per hour (mph), except as posted on state and county highways and roads.

#### **BMP 12**

Motorized vehicles are prohibited within occupied special status species habitat. If disturbance by motorized vehicles is not avoidable, then the disturbed area will be limited in size to a width of 25 feet (12.5 feet on each side of the traveled way center line) and will be considered temporarily disturbed.

#### **BMP 13**

Signs will be posted to help prevent entry by unauthorized vehicles to off-road survey routes in sensitive habitat areas.

#### **BMP 14**

Vehicles related to the Project will be confined to existing primary or secondary roads or to specifically delineated construction sites (i.e. areas that have been surveyed and designated for such use). Off-road vehicle travel is not otherwise permitted.

#### **BMP 15**

Any contractor, employee, or other personnel who inadvertently kills, injures, or traps a special status species, or who discovers a dead, injured, or trapped special status species will immediately report the incident to his or her supervisor or to the onsite biological monitor, who will, in turn, contact the District representative.

In the event of a dead, injured, or trapped special status species, the District will immediately contact CDFG. The CDFG contact for immediate assistance is **State Dispatch at (916) 445-0045**. State Dispatch will contact the local warden or qualified biologist. The qualified biologist will document all circumstances of death, injury, and entrapment of special status species. The biologist will also do the following, as applicable:

- (1) In the case of a dead animal, the biologist will document the circumstances of death in writing and, if possible, photograph the dead animal *in situ* prior to moving.
- (2) In the case of an injured animal, the biologist will contact CDFG or other appropriate authorities to identify an approved rehabilitation center and appropriate capture and transport techniques.
- (3) In the case of a trapped animal, the biologist will take all reasonable steps to enable the animal to escape.

#### **BMP 16**

BVWSD will notify USFWS and CDFG, in writing, within three working days in the event of accidental death or injury of a San Joaquin kit fox, blunt-nosed leopard lizard, or San Joaquin antelope squirrel. Additionally, BVWSD will notify USFWS and CDFG in writing within three working days of the discovery of a dead, injured, or trapped individual of the species listed above.

Written notification will include the date, time, and location of the incident or finding, as well as any other pertinent information. USFWS and CDFG contact information is listed below.

USFWS Endangered Species Program Field Office  
2800 Cottage Way, Room W-2605  
Sacramento CA 95825  
(916) 414-6600

California Department of Fish and Game  
1416 9th Street  
Sacramento CA 95814  
(916) 654-4262

At CDFG's request, any dead or injured San Joaquin kit fox, blunt-nosed leopard lizard, or San Joaquin antelope squirrel will be turned over to the CDFG Environmental Services Division, Fresno Regional Headquarters (209-445-6152).

With CDFG approval, dead animals may be transported for storage and research to California State University at Bakersfield or to the Endangered Species Recovery Team in Bakersfield.

**Responsible Party:** District Representative and District Engineer-Manager

**Implementation Period:** Prior to and Throughout Project Construction

### **Section III – Cultural Resources Mitigation Measures and Mitigation Monitoring Program**

Three Girls and a Shovel, LLC (TG&S) conducted a cultural resources assessment for the Project site, a copy of which is available from BVWSD upon request.

Based upon the findings and recommendations contained in the cultural resources assessment report, the District will implement the following mitigation measures (Nos. 11 through 17) in order to ensure that construction of facilities pursuant to the Project does not result in a significant adverse impact upon archaeological or historical resources (collectively, cultural resources). Each measure is attended by a notation of the party responsible for its implementation and of the period for which it will be in effect.

**11. CUL 1: Retain a Qualified Professional Archaeologist**

Prior to commencing construction activities pursuant to the Project, the District will retain a qualified professional archaeologist as the Cultural Resources Specialist (CRS) for the Project. The CRS will be primarily responsible for implementing Mitigation Measures CUL 2 through CUL 7 herein.

**Responsible Party:** District Engineer-Manager

**Implementation Period:** Prior to Project Construction

**12. CUL 2: Construction Monitoring**

Because of the archaeological sensitivity of the Project site and vicinity, all trenching and excavation activities pursuant to the Project will be monitored by a qualified cultural resources monitor (CRM). The CRM will have the authority to halt or divert construction activities in order to salvage artifactual material, to salvage sediments that may contain artifactual material, or to protect sensitive resources that may be present. Construction activities may resume upon written or verbal authorization of the CRS.

**Responsible Party:** Cultural Resources Specialist

**Implementation Period:** Throughout Project Construction

**13. CUL 3: Discovery of Human Remains**

Recorded sites, as well as previously undiscovered sites, situated within the vicinity of the Project site may contain human remains. Human remains are often fragile and should be treated with care and respect at all times. The discovery of human remains involves both legal and archaeological issues. Discovery of any human remains in the vicinity of the Project site is subject to criteria set forth by CEQA and by the Native American Graves Protection and Repatriation Act, 43 CFR Part 10, as amended. Therefore, the following procedures will be implemented immediately upon the discovery of human remains:

- Stop all excavation work and, using appropriate safety precautions, with a minimum of further disturbance to the remains, allow the Cultural Resources Monitor (CRM) to verify

that the discovery is, in fact, human skeletal material. If the remains are determined to be other than human remains, then construction activities may resume upon written or verbal authorization by BVWSD.

- If the remains are determined to be human, the CRM will immediately contact, by telephone, the Kern County Public Works Department, the Kern County Sheriff Department, and the Kern County Coroner to report the discovery. After notifying the appropriate authorities, the CRM will then immediately notify BVWSD.
- In the event that the County Coroner determines that the human remains are Native American, the CRM will immediately notify the California Native American Heritage Commission (NAHC), who shall appoint a Most Likely Descendant (MLD) (Public Resources Code, Section 5097.98). BVWSD, the CRM, the MLD, and the owner of the property on which the remains were discovered shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.
- Work within the immediate vicinity of the find shall remain halted until BVWSD provides written authorization for work to resume in the vicinity of the discovery.

**Responsible Party:** Cultural Resources Specialist and Cultural Resources Monitor

**Implementation Period:** Throughout Project Construction

#### **14. CUL 4: Avoidance**

If a potentially significant cultural resource is discovered during construction, the construction plans will be modified, if feasible, to avoid that resource. For any important or potentially important cultural resource that can be avoided by modification of the Project plans, the resource will be temporarily fenced or otherwise demarcated on the ground, and the area will be designated environmentally sensitive and will be avoided during construction.

Construction equipment will be directed away from the cultural resource, and construction personnel will be directed to avoid entering the area. Where resource boundaries are unknown, the protected area will include a buffer zone with a radius of 100 feet. In some cases, additional archaeological work could be required to determine the boundaries of the cultural resource and to assure avoidance.

If there are no feasible means for avoiding the resource, then the resource will be tested as described in CUL 5 below. If the resource is found to be significant, then the measures described in CUL 5 and CUL 6 will be implemented, as applicable.

**Responsible Party:** Cultural Resources Specialist and District Engineer-Manager

**Implementation Period:** Prior to and Throughout Project Construction

#### **15. CUL 5: Archaeological Testing**

The CRM or qualified archaeologist will conduct testing and, if necessary, data recovery, on important or potentially important cultural resources that cannot be practicably avoided during construction. Testing may include one or more of the following:

- Determining the presence or absence of archaeological or historical resources;
- Determining the boundaries of the archaeological or historical resources found;
- Identifying the archaeological or historical resources found; and
- Evaluating the historical significance of the archaeological or historical resources found.

Upon completion of the archaeological testing, the CRM or qualified archaeologist will issue a written report to BVWSD. If the CRM or archaeologist has determined that an important cultural resource is present and may be significantly and adversely impacted by the Project, then BVWSD may do one or both of the following:

- Redesign all or part of the Project facilities, as practicable, in order to avoid adverse impacts upon important cultural resources; or

- Implement a Data Recovery Program, as set forth in CUL 6, below.

**Responsible Party:** Cultural Resources Specialist and Cultural Resources Monitor

**Implementation Period:** Prior to and Throughout Project Construction

## 16. CUL 6: Data Recovery

Data recovery will be implemented in the event that adverse impacts to an important cultural resource cannot be avoided. Data recovery is intended to preserve significant information that the resource is expected to contain, will be conducted by a qualified archaeologist, and consists of one or more of the following:

- Identifying the scientific or historical research questions that apply to the resource;
- Identifying the data classes that the resource is expected to possess; and
- Identifying how the expected data classes would address the applicable research questions.

Data recovery will generally be limited to the portions of the potential resource areas on the Project site that could be adversely impacted by the Project. Further, destructive data recovery methods will not be applied to cultural resources, potential cultural resources, or portions of cultural resources if nondestructive methods are practical. If the resource being subject to data recovery is associated with Native American inhabitation of the region, then the District may request that a Native American Monitor be present during implementation of this mitigation measure.

**Responsible Party:** Cultural Resources Specialist

**Implementation Period:** Throughout Project Construction

## 17. CUL 7: Construction Crew Education

Prior to commencing construction, all construction crews will be advised of the regulatory protections afforded to cultural resources. The crews will also be informed of procedures relating to the inadvertent exposure of archaeological or cultural resources. The crews will be cautioned

not to collect artifacts and will be advised to immediately inform a supervisor if apparent cultural remains or human remains are uncovered.

**Responsible Party:** Cultural Resources Specialist

**Implementation Period:** Prior to Project Construction

#### **Section IV – Paleontological Resources Mitigation Measures and Mitigation Monitoring Program**

A paleontological sensitivity analysis was conducted for the Project and is described in the report, Paleontological Sensitivity Analysis for Buena Vista Water District New Canal Construction, dated November 22, 2008 (Paleontological Analysis), a copy of which is included in Appendix F of the Feasibility Study Report for New Turnout from State Water Project Aqueduct (Kennedy/Jenks Consultants 2008), and is available for review at the District's office upon request.

The Paleontological Analysis describes various sediments in the Project area, some of which may be likely to contain vertebrate or significant invertebrate fossils. Based upon the findings and recommendations of the Paleontological Analysis, mitigation measure PALEO 1 below will be implemented in order to ensure that construction of facilities pursuant to the Project does not result in a significant adverse impact upon paleontological resources.

#### **18. PALEO 1: Paleontological Monitoring**

During Project construction, a qualified paleontologist will be present during all excavation activities to identify paleontological resources that may be uncovered. In the event that a potential paleontological resource is uncovered at the Project site, the paleontologist has the authority to temporarily halt construction activities in order to determine whether or not the potential resource should be salvaged for further study relating to the geological and biological history of the area. Construction will resume upon written or verbal authorization of the District.

**Responsible Party:** District Engineer-Manager

**Implementation Period:** Throughout Project Construction



---

**DRAFT ENVIRONMENTAL ASSESSMENT**

*BUENA VISTA WASTER STORAGE DISTRICT  
BV8 STATE WATER PROJECT TURNOUT*

**Appendix D**  
**Protocol-level Biological Surveys**

---

August 2010

## M e m o r a n d u m

: "Div. Chiefs - IFD, BDD, NED, & WMD  
Reg. Mgrs. - Regions 1, 2, 3, 4, & 5

Date : October 17, 1995

From : Department of Fish and Game

Subject :  
Staff Report on Burrowing Owl Mitigation

I am hereby transmitting the Staff Report on Burrowing Owl Mitigation for your use in reviewing projects (California Environmental Quality Act [CEQA] and others) which may affect burrowing owl habitat. The Staff Report has been developed during the last several months by the Environmental Services Division (ESD) in cooperation with the Wildlife Management Division (WMD) and regions 1, 2, and 4. It has been sent out for public review and redrafted as appropriate.

Either the mitigation measures in the staff report may be used or project specific measures may be developed. Alternative project specific measures proposed by the Department divisions/regions or by project sponsors will also be considered. However, such mitigation measures must be submitted to ESD for review. The review process will focus on the consistency of the proposed measure with Department, Fish and Game Commission, and legislative policy and with laws regarding raptor species. ESD will coordinate project specific mitigation measure review with WMD.

If you have any questions regarding the report, please contact Mr. Ron Rempel, Supervising Biologist, Environmental Services Division, telephone (916) 654-9980.

**COPY** Original signed by  
C.F. Raysbrook

C. F. Raysbrook  
Interim Director

Attachment

cc: Mr. Ron Rempel  
Department of Fish and Game  
Sacramento

# STAFF REPORT ON BURROWING OWL MITIGATION

## Introduction

The Legislature and the Fish and Game Commission have developed the policies, standards and regulatory mandates to protect native species of fish and wildlife. In order to determine how the Department of Fish and Game (Department) could judge the adequacy of mitigation measures designed to offset impacts to burrowing owls (*Speotyto cunicularia*; A.O.U. 1991) staff (WMD, ESD, and Regions) has prepared this report. To ensure compliance with legislative and commission policy, mitigation requirements which are consistent with this report should be incorporated into: (1) Department comments to Lead Agencies and project sponsors pursuant to the California Environmental Quality Act (CEQA); and (2) other authorizations the Department gives to project proponents for projects impacting burrowing owls.

This report is designed to provide the Department (including regional offices and divisions), CEQA Lead Agencies and project proponents the context in which the Environmental Services Division (ESD) will review proposed project specific mitigation measures. This report also includes preapproved mitigation measures which have been judged to be consistent with policies, standards and legal mandates of the Legislature, the Fish and Game Commission and the Department's public trust responsibilities. Implementation of mitigation measures consistent with this report are intended to help achieve the conservation of burrowing owls and should compliment multi-species habitat conservation planning efforts currently underway. The *Burrowing Owl Survey Protocol and Mitigation Guidelines* developed by The California Burrowing Owl Consortium (CBOC 1993) were taken into consideration in the preparation of this staff report as were comments from other interested parties.

A range-wide conservation strategy for this species is needed. Any range-wide conservation strategy should establish criteria for avoiding the need to list the species pursuant to either the California or federal Endangered Species Acts through preservation of existing habitat, population expansion into former habitat, recruitment of young into the population, and other specific efforts.

California's burrowing owl population is clearly declining and, if declines continue, the species may qualify for listing. Because of the intense pressure for urban development within suitable burrowing owl nesting and foraging habitat (open, flat and gently rolling grasslands and grass/shrub lands) in California, conflicts between owls and development projects often occur. Owl survival can be adversely affected by disturbance and foraging habitat loss even when impacts to individual birds and nests/burrows are avoided. Adequate information about the presence of owls is often unavailable prior to project approval. Following project approval there is no legal mechanism through which to seek mitigation other than avoidance of occupied burrows or nests. The absence of standardized survey methods often impedes consistent impact assessment.

## **Burrowing Owl Habitat Description**

Burrowing owl habitat can be found in annual and perennial grasslands, deserts, and arid scrublands characterized by low-growing vegetation (Zarn 1974). Suitable owl habitat may also include trees and shrubs if the canopy covers less than 30 percent of the ground surface. Burrows are the essential component of burrowing owl habitat. Both natural and artificial burrows provide protection, shelter, and nests for burrowing owls (Henny and Blus 1981). Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels or badgers, but also may use man-made structures such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement.

## **Occupied Burrowing Owl Habitat**

Burrowing owls may use a site for breeding, wintering, foraging, and/or migration stopovers. Occupancy of suitable burrowing owl habitat can be verified at a site by detecting a burrowing owl, its molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance. Burrowing owls exhibit high site fidelity, reusing burrows year after year (Rich 1984, Feeney 1992). A site should be assumed occupied if at least one burrowing owl has been observed occupying a burrow there within the last three years (Rich 1984).

## **CEQA Project Review**

The measures included in this report are intended to provide a decision-making process that should be implemented whenever there is potential for an action or project to adversely affect burrowing owls. For projects subject to the California Environmental Quality Act (CEQA), the process begins by conducting surveys to determine if burrowing owls are foraging or nesting on or adjacent to the project site. If surveys confirm that the site is occupied habitat, mitigation measures to minimize impacts to burrowing owls, their burrows and foraging habitat should be incorporated into the CEQA document as enforceable conditions. The measures in this document are intended to conserve the species by protecting and maintaining viable populations of the species throughout their range in California. This may often result in protecting and managing habitat for the species at sites away from rapidly urbanizing/developing areas. Projects and situations vary and mitigation measures should be adapted to fit specific circumstances.

Projects not subject to CEQA review may have to be handled separately since the legal authority the Department has with respect to burrowing owls in this type of situation is often limited. The burrowing owl is protected from "take" (Section 3503.5 of the Fish and Game Code) but unoccupied habitat is likely to be lost for activities not subject to CEQA.

## **Legal Status**

The burrowing owl is a migratory species protected by international treaty under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R. 21). Sections 3505, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs. To avoid violation of the take provisions of these laws generally requires that project-related disturbance at active nesting territories be reduced or eliminated during the nesting cycle (February 1 to August 31). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered “take” and is potentially punishable by fines and/or imprisonment.

The burrowing owl is a Species of Special Concern to California because of declines of suitable habitat and both localized and statewide population declines. Guidelines for the Implementation of the California Environmental Quality Act (CEQA) provide that a species be considered as endangered or “rare” regardless of appearance on a formal list for the purposes of the CEQA (Guidelines, Section 15380, subsections b and d). The CEQA requires a mandatory findings of significance if impacts to threatened or endangered species are likely to occur (Sections 21001 (c), 2103; Guidelines 15380, 15064, 15065). To be legally adequate, mitigation measures must be capable of “avoiding the impact altogether by not taking a certain action or parts of an action”; “minimizing impacts by limiting the degree or magnitude of the action and its implementation”; “rectifying the impact by repairing, rehabilitating or restoring the impacted environment”; “or reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action” (Guidelines, Section 15370). Avoidance or mitigation to reduce impacts to less than significant levels must be included in a project or the CEQA lead agency must make and justify findings of overriding considerations.

## **Impact Assessment**

### **Habitat Assessment**

The project site and a 150 meter (approximately 500 ft.) buffer (where possible and appropriate based on habitat) should be surveyed to assess the presence of burrowing owls and their habitat (Thomsen 1971, Martin 1973). If occupied habitat is detected on or adjacent to the site, measures to avoid, minimize, or mitigate the project’s impacts to the species should be incorporated into the project, including burrow preconstruction surveys to ensure avoidance of direct take. It is also recommended that preconstruction surveys be conducted if the species was not detected but is likely to occur on the project site.

## **Burrowing Owl and Burrow Surveys**

Burrowing owl and burrow surveys should be conducted during both the wintering and nesting seasons, unless the species is detected on the first survey. If possible, the winter survey should be conducted between December 1 and January 31 (when wintering owls are most likely to be present) and the nesting season survey should be conducted between April 15 and July 15 (the peak of the breeding season). Surveys conducted from two hours before sunset to one hour after, or from one hour before to two hours after sunrise, are also preferable.

Surveys should be conducted by walking suitable habitat on the entire project site and (where possible) in areas within 150 meters (approx. 500 ft.) of the project impact zone. The 150-meter buffer zone is surveyed to identify burrows and owls outside of the project area which may be impacted by factors -such as noise and vibration (heavy equipment, etc.) during project construction. Pedestrian survey transects should be spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines should be no more than 30 meters (approx. 100 ft.) and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. To effectively survey large projects (100 acres or larger), two or more surveyors should be used to walk adjacent transects. To avoid impacts to owls from surveyors, owls and/or occupied burrows should be avoided by a minimum of 50 meters (approx. 160 ft.) wherever practical. Disturbance to occupied burrows should be avoided during all seasons.

## **Definition of Impacts**

The following should be considered impacts to the species:

- Disturbance within 50 meters (approx. 160 ft.) Which may result in harassment of owls at occupied burrows;
- Destruction of natural and artificial burrows (culverts, concrete slabs and debris piles that provide shelter to burrowing owls); and
- Destruction and/or degradation of foraging habitat adjacent (within 100 m) of an occupied burrow(s).

## **Written Report**

A report for the project should be prepared for the Department and copies should be submitted to the Regional contact and to the Wildlife Management Division Bird and Mammal Conservation Program. The report should include the following information:

- Date and time of visit(s) including name of the qualified biologist conducting surveys, weather and visibility conditions, and survey methodology;
- Description of the site including location, size, topography, vegetation communities, and animals observed during visit(s);
- Assessment of habitat suitability for burrowing owls;
- Map and photographs of the site;
- Results of transect surveys including a map showing the location of all burrow(s) (natural or artificial) and owl(s), including the numbers at each burrow if present and tracks, feathers, pellets, or other items (prey remains, animal scat);
- Behavior of owls during the surveys;
- Summary of both winter and nesting season surveys including any productivity information and a map showing territorial boundaries and home ranges; and
- Any historical information (Natural Diversity Database, Department regional files? Breeding Bird Survey data, American Birds records, Audubon Society, local bird club, other biologists, etc.) regarding the presence of burrowing owls on the site.

## **Mitigation**

The objective of these measures is to avoid and minimize impacts to burrowing owls at a project site and preserve habitat that will support viable owls populations. If burrowing owls are detected using the project area, mitigation measures to minimize and offset the potential impacts should be included as enforceable measures during the CEQA process.

Mitigation actions should be carried out from September 1 to January 31 which is prior to the nesting season (Thomsen 1971, Zam 1974). Since the timing of nesting activity may vary with latitude and climatic conditions, this time frame should be adjusted accordingly. Preconstruction surveys of suitable habitat at the project site(s) and buffer zone(s) should be conducted within the 30 days prior to construction to ensure no additional, burrowing owls have established territories since the initial surveys. If ground disturbing activities are delayed or suspended for more than 30 days after the preconstruction survey, the site should be resurveyed.

Although the mitigation measures may be included as enforceable project conditions in the CEQA process, it may also be desirable to formalize them in a Memorandum of Understanding (MOU) between the Department and the project sponsor. An MOU is needed when lands (fee title or conservation easement) are being transferred to the Department.

## Specific Mitigation Measures

1. Occupied burrows should not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by the Department verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.
2. To offset the loss of foraging and burrow habitat on the project site, a minimum of 6.5 acres of foraging habitat (calculated on a 100 m {approx. 300 ft.} foraging radius around the burrow) per pair or unpaired resident bird, should be acquired and permanently protected. The protected lands should be adjacent to occupied burrowing owl habitat and at a location acceptable to the Department. *Protection of additional habitat acreage per pair or unpaired resident bird may be applicable in some instances.* The CBOC has also developed mitigation guidelines (CBOC 1993) that can be incorporated by CEQA lead agencies and which are consistent with this staff report.
3. When destruction of occupied burrows is unavoidable, existing unsuitable burrows should be enhanced (enlarged or cleared of debris) or new burrows created (by installing artificial burrows) at a ratio of 2:1 on the protected lands site. One example of an artificial burrow design is provided in Attachment A.
4. If owls must be moved away from the disturbance area, passive relocation techniques (as described below) should be used rather than trapping. At least one or more weeks will be necessary to accomplish this and allow the owls to acclimate to alternate burrows.
5. The project sponsor should provide funding for long-term management and monitoring of the protected lands. The monitoring plan should include success criteria, remedial measures, and an annual report to the Department.

## Impact Avoidance

If avoidance is the preferred method of dealing with potential project impacts, then no disturbance should occur within 50 meters (approx. 160 ft.) of occupied burrows during the nonbreeding season of September 1 through January 31 or within 75 meters (approx. 250 ft.) during the breeding season of February 1 through August 31. Avoidance also requires that a minimum of 6.5 acres of foraging habitat be *permanently* preserved contiguous with occupied burrow sites for each pair of breeding burrowing owls (with or without dependent young) or single unpaired resident bird. The configuration of the protected habitat should be approved by the Department.



### **Passive Relocation - With One-Way Doors**

Owls should be excluded from burrows in the immediate impact zone and within a 50 meter (approx. 160 ft.) buffer zone by installing one-way doors in burrow entrances. One-way doors (e.g., modified dryer vents) should be left in place 48 hours to insure owls have left the burrow before excavation. Two natural or artificial burrows should be provided for each burrow in the project area that will be rendered biologically unsuitable. The project area should be *monitored daily for one* week to confirm owl use of burrows before excavating burrows in the immediate impact zone. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe should be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow.

### **Passive Relocation - Without One-Way Doors**

Two natural or artificial burrows should be provided for each burrow in the project area that will be rendered biologically unsuitable. The project area should be *monitored daily until the owls have relocated to the new burrows*. The formerly occupied burrows may then be excavated. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe should be inserted into burrows during excavation to maintain an escape route for any animals inside the burrow.

## **Projects Not Subject to CEQA**

The Department is often contacted regarding the presence of burrowing owls on construction sites, parking lots and other areas for which there is no CEQA action or for which the CEQA process has been completed. In these situations, the Department should seek to reach agreement with the project sponsor to implement the specific mitigation measures described above. If they are unwilling to do so, passive relocation without the aid of one-way doors is their only option based upon Fish and Game Code 3503.5.

## Literature Cited

- American Ornithologists Union (AOU). 1991. Thirty-eighth supplement to the AOU checklist of North American birds. *Auk* 108:750-754.
- Feeney, L. 1992. Site fidelity in burrowing owls. Unpublished paper presented to Raptor Research Annual Meeting, November 1992. Seattle, Washington.
- Haug, E. A. and L. W. Oliphant. 1990. Movements, activity patterns, and habitat use of burrowing owls in Saskatchewan. *J. Wildlife Management* 54:27-35.
- Henny, C. J. and L. J. Blus. 1981. Artificial burrows provide new insight into burrowing owl nesting biology. *Raptor Research* 15:82-85.
- Martin, D. J. 1973. Selected aspects of burrowing owl ecology and behavior. *Condor* 75:446-456.
- Rich, T. 1984. Monitoring burrowing owl populations: Implications of burrow re-use. *Wildlife Society Bulletin* 12:178-180.
- The California Burrowing Owl Consortium (CBOC). 1993. Burrowing owl survey protocol and mitigation guidelines. Tech. Rep. Burrowing Owl Consortium, Alviso, California.
- Thomsen, L. 1971. Behavior and ecology of burrowing owls on the Oakland Municipal Airport. *Condor* 73:177-192.
- Zarn, M. 1974. Burrowing owl. U. S. Department of Interior, Bureau of Land Management. Technical Note T-N 250. Denver, Colorado. 25 pp.

# Reproductive Success of Burrowing Owls Using Artificial Nest Burrows in Southeastern Idaho

by Bruce Olenick

Artificial nest burrows were implanted in southeastern Idaho for burrowing owls in the spring of 1986. These artificial burrows consisted of a 12" x 12" x 8" wood nesting chamber with removable top and a 6 foot corrugated and perforated plastic drainage pipe 6 inches in diameter (Fig. 1). Earlier investigators claimed that artificial burrows must provide a natural dirt floor to allow burrowing owls to modify the nesting tunnel and chamber. Contrary to this, the artificial burrow introduced here does not allow owls to modify the entrance or tunnel. The inability to change the physical dimensions of the burrow tunnel does not seem to reflect the owls' breeding success or deter them from using this burrow design.

In 1936, 22 artificial burrows were inhabited. Thirteen nesting attempts yielded an average clutch size of 8.3 eggs per breeding pair. Eight nests successfully hatched at least 1 nestling. In these nests, 67 of 75 eggs hatched (59.3%) and an estimated 61 nestlings (91.0%) fledged. An analysis of the egg laying and incubation periods showed that incubation commenced well after egg lay-

ing began. Average clutch size at the start of incubation was 5.6 eggs. Most eggs tended to hatch synchronously in all successful nests.

Although the initial cost of constructing this burrow design may be slightly higher than a burrow consisting entirely of wood, the plastic pipe burrow offers the following advantages: (1) it lasts several field seasons without rotting or collapsing; (2) it may prevent or retard predation; (3) construction time is min-

imal; (4) it is easy to transport, especially over long distances; and (5) the flexible tunnel simplifies installation. The use of this artificial nest burrow design was highly successful and may prove to be a great resource technique for future management of this species.

*For additional information on constructing this artificial nest burrow, contact Bruce Olenick, Department of Biology, Idaho State University, Pocatello, ID 83209.*

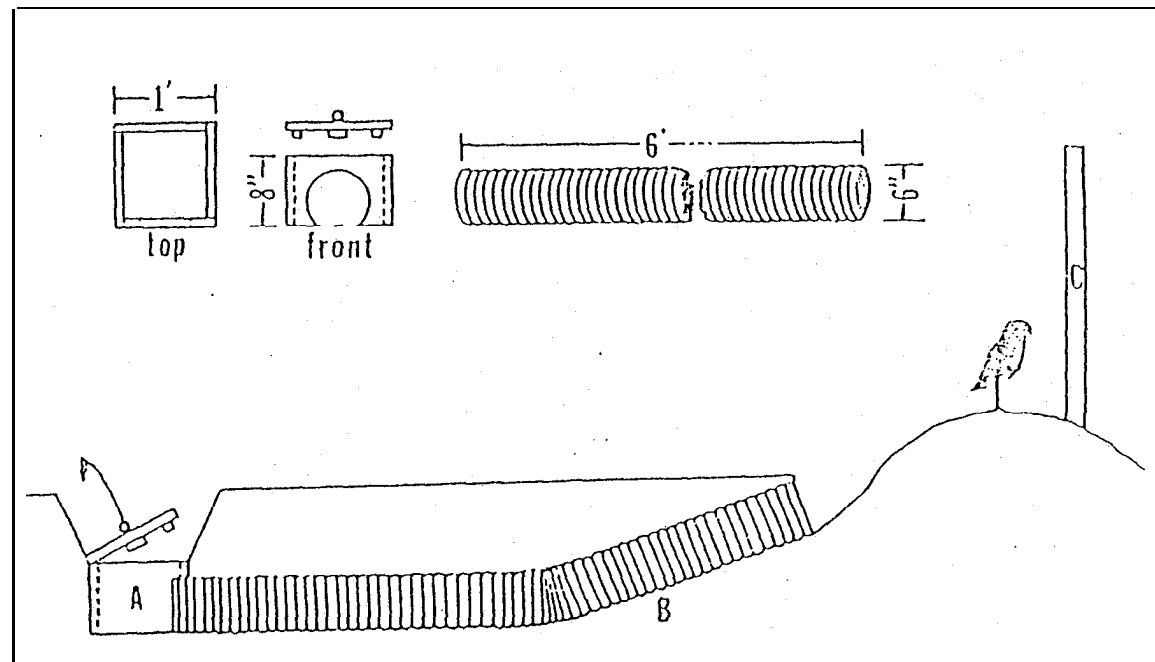


fig. 1 Artificial nest burrow design for burrowing owls Entire unit (including nest chamber) is buried 12" -- 18" below ground for maintaining thermal stability of the nest chamber. A= nest chamber, B = plastic pipe. C = perch.

**U.S. FISH AND WILDLIFE SERVICE  
STANDARDIZED RECOMMENDATIONS  
FOR PROTECTION OF THE SAN JOAQUIN KIT FOX  
PRIOR TO OR DURING GROUND DISTURBANCE**

Prepared by the Sacramento Fish and Wildlife Office  
June 1999

## **INTRODUCTION**

The following document includes many of the San Joaquin kit fox (*Vulpes macrotis mutica*) protection measures typically recommended by the U. S. Fish and Wildlife Service (Service), prior to and during ground disturbance activities. However, incorporating relevant sections of these guidelines into the proposed project is not the only action required under the Endangered Species Act of 1973, as amended (Act). Project applicants should contact the Service in Sacramento to determine the full range of requirements that apply to your project; the address and telephone number are given at the end of this document. Formal authorization for the project may be required under either section 7 or section 10 of the Act. Implementation of the measures presented in this document may be necessary to avoid violating the provisions of the Act, including the prohibition against "take" (defined as killing, harming, or harassing a listed species, including actions that damage or destroy its habitat). Such protection measures may also be required under the terms of a biological opinion pursuant to section 7 of the Act resulting in incidental take authorization (authorization), or an incidental take permit (permit) pursuant to section 10 of the Act. The specific measures implemented to protect kit fox for any given project shall be determined by the Service based upon the applicant's consultation with the Service.

The purpose of this document is to make information on kit fox protection strategies readily available and to help standardize the methods and definitions currently employed to achieve kit fox protection. The measures outlined in this document are subject to modification or revision at the discretion of the Service.

All surveys, den destructions, and monitoring described in this document must be conducted by a qualified biologist. A qualified biologist (biologist) means any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the San Joaquin kit fox. In addition, biologist(s) must be able to identify coyote, red fox, gray fox, and kit fox tracks, and to have seen a kit fox in the wild, at a zoo, or as a museum mount.

## **SMALL PROJECTS**

Small projects are considered to be those projects with small foot prints such as an individual in-fill oil well, communication tower, or bridge repair. These projects must stand alone and not be part of, or in any way connected to larger projects (i.e., bridge repair or improvement to serve a

future urban development). The Service recommends that on these small projects, the biologist survey the proposed project boundary and a 200-foot area outside of the project footprint to identify habitat features, and make recommendations on situating the project to minimize or avoid impacts. If habitat features cannot be completely avoided, then preconstruction surveys should be conducted.

Preconstruction/preactivity surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to impact the San Joaquin kit fox. Surveys should identify kit fox habitat features on the project site and evaluate use by kit fox and, if possible, and assess the potential impacts to the kit fox by the proposed activity. The status of all dens should be determined and mapped (see Survey Protocol).

Written results of preconstruction/preactivity surveys must be received by the Service within five days after survey completion and prior to the start of ground disturbance and/or construction activities. If a natal/pupping den is discovered within the project area or within 200-feet of the project boundary, the Service shall be immediately notified. If the preconstruction/preactivity survey reveals an active natal pupping or new information, the project applicant should contact the Service immediately to obtain the necessary take authorization/permit.

If take authorization/permit has already been issued, then the biologist may proceed with den destruction within the project boundary, except natal/pupping dens (active or inactive). Protective exclusion zones can be placed around all known and potential dens which occur outside the project footprint (conversely, the project boundary can be demarcated, see den destruction section).

## **OTHER PROJECTS**

It is likely that all other projects occurring within kit fox habitat will require a take authorization/permit from the Service. This determination would be made by the Service during the early evaluation process (see Survey Protocol). These other projects would include, but are not limited to: linear projects; projects with large footprints such as urban development; and projects which in themselves may be small but have far reaching impacts (i.e., water storage or conveyance facilities that promote urban growth or agriculture, etc.).

The take authorization/permit issued by the Service may incorporate some or all of the protection measures presented in this document. The take authorization/permit may include measures specific to the needs of the project, and those requirements supersede any requirements found in this document.

## EXCLUSION ZONES

The configuration of exclusion zones around the kit fox dens should have a radius measured outward from the entrance or cluster of entrances. The following radii are minimums, and if they cannot be followed the Service must be contacted:

Potential den	50 feet
Known den	100 feet
Natal/pupping den (occupied <u>and</u> unoccupied)	Service must be contacted
Atypical den	50 feet

Known den: To ensure protection, the exclusion zone should be demarcated by fencing that encircles each den at the appropriate distance and does not prevent access to the den by kit foxes. Exclusion zone fencing should be maintained until all construction related or operational disturbances have been terminated. At that time, all fencing shall be removed to avoid attracting subsequent attention to the dens.

Potential and Atypical dens: Placement of 4-5 flagged stakes 50 feet from the den entrance(s) will suffice to identify the den location; fencing will not be required, but the exclusion zone must be observed.

Construction and other project activities should be prohibited or greatly restricted within these exclusion zones. Only essential vehicle operation on existing roads and foot traffic should be permitted. Otherwise, all construction, vehicle operation, material storage, or any other type of surface-disturbing activity should be prohibited within the exclusion zones.

## DESTRUCTION OF DENS

Disturbance to all San Joaquin kit fox dens should be avoided to the maximum extent possible. Protection provided by kit fox dens for use as shelter, escape, cover, and reproduction is vital to the survival of the species. Limited destruction of kit fox dens may be allowed, if avoidance is not a reasonable alternative, provided the following procedures are observed. The value to kit foxes of potential, known, and natal/pupping dens differ and therefore, each den type needs a different level of protection. **Destruction of any known or natal/pupping kit fox den requires take authorization/permit from the Service.**

Natal/pupping dens: Natal or pupping dens which are occupied will not be destroyed until the pups and adults have vacated and then only after consultation with the Service. Therefore, project activities at some den sites may have to be postponed.

Known Dens: Known dens occurring within the footprint of the activity must be monitored for three days with tracking medium or an infra-red beam camera to determine the current use. If no kit fox activity is observed during this period, the den should be destroyed immediately to preclude subsequent use. If kit fox activity is observed at the den during this period, the den should be monitored for at least five consecutive days from the time of the observation to allow any resident animal to move to another den during its normal activity. Use of the den can be discouraged during this period by partially plugging its entrances(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied may the den be excavated under the direction of the biologist. If the animal is still present after five or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant, for example during the animal's normal foraging activities. The Service encourages hand excavation, but realizes that soil conditions may necessitate the use of excavating equipment. However, extreme caution must be exercised.

Destruction of the den should be accomplished by careful excavation until it is certain that no kit foxes are inside. The den should be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period. If at any point during excavation a kit fox is discovered inside the den, the excavation activity shall cease immediately and monitoring of the den as described above should be resumed. Destruction of the den may be completed when in the judgement of the biologist, the animal has escaped from the partially destroyed den.

Potential Dens: If a take authorization/permit has been obtained from the Service, den destruction may proceed without monitoring, unless other restrictions were issued with the take authorization/permit. If no take authorization/permit has been issued, then potential dens should be monitored as if they were known dens. If any den was considered to be a potential den, but is later determined during monitoring or destruction to be currently, or previously used by kit fox (e.g., if kit fox sign is found inside), then destruction shall cease and the Service shall be notified immediately.

## **CONSTRUCTION AND OPERATIONAL REQUIREMENTS**

Habitat subject to permanent and temporary construction disturbances and other types of project-related disturbance should be minimized. Project designs should limit or cluster permanent project features to the smallest area possible while still permitting project goals to be achieved. To minimize temporary disturbances, all project-related vehicle traffic should be restricted to established roads, construction areas, and other designated areas. These areas should also be

included in preconstruction surveys and, to the extent possible, should be established in locations disturbed by previous activities to prevent further impacts.

1. Project-related vehicles should observe a 20-mph speed limit in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. To the extent possible, night-time construction should be minimized. Off-road traffic outside of designated project areas should be prohibited.
2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2 feet deep should be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures under number 13 of this section must be followed.
3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.
4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in closed containers and removed at least once a week from a construction or project site.
5. No firearms shall be allowed on the project site.
6. To prevent harassment, mortality of kit foxes or destruction of dens by dogs or cats, no pets should be permitted on project sites.
7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the Service. If rodent control



must be conducted, zinc phosphide should be used because of proven lower risk to kit fox.

8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped individual. The representative will be identified during the employee education program. The representative's name and telephone number shall be provided to the Service.
9. An employee education program should be conducted for any project that has expected impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and agency personnel involved in the project. The program should include the following: a description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the above-mentioned people and anyone else who may enter the project site.
10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. should be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but that after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the Service, California Department of Fish and Game (CDFG), and revegetation experts.
11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the Service should be contacted for advice.
12. Any contractor, employee, or military or agency personnel who inadvertently kills or injures a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFG immediately in the case of a dead, injured or entrapped kit fox. The CDFG contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden or biologist.
13. The Sacramento Fish and Wildlife Office and CDFG will be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during

project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers given below. The CDFG contact is Mr. Ron Schlorff at 1416 9<sup>th</sup> Street, Sacramento, California 95814, (916) 654-4262.

Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:

Endangered Species Division  
2800 Cottage Way, Suite W2605  
Sacramento, California 95825-1846  
(916) 414-6620

"Take" - Section 9 of the Endangered Species Act of 1973, as amended (Act) prohibits the "take" of any federally listed endangered species by any person (an individual, corporation, partnership, trust, association, etc.) subject to the jurisdiction of the United States. As defined in the Act, take means " . . . to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Thus, not only is a listed animal protected from activities such as hunting, but also from actions that damage or destroy its habitat.

"Dens" - San Joaquin kit fox dens may be located in areas of low, moderate, or steep topography. Den characteristics are listed below, however, the specific characteristics of individual dens may vary and occupied dens may lack some or all of these features. Therefore, caution must be exercised in determining the status of any den. Typical dens may include the following: (1) one or more entrances that are approximately 5 to 8 inches in diameter; (2) dirt berms adjacent to the entrances; (3) kit fox tracks, scat, or prey remains in the vicinity of the den; (4) matted vegetation adjacent to the den entrances; and (5) manmade features such as culverts, pipes, and canal banks.

"Known den" - Any existing natural den or manmade structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records, past or current radiotelemetry or spotlighting data, kit fox sign such as tracks, scat, and/or prey remains, or other reasonable proof that a given den is being or has been used by a kit fox. The Service discourages use of the terms "active" and "inactive" when referring to any kit fox den because a great percentage of occupied dens show no evidence of use, and because kit foxes change dens often, with the result that the status of a given den may change frequently and abruptly.

"Potential Den" - Any subterranean hole within the species' range that has entrances of appropriate dimensions for which available evidence is insufficient to conclude that it is being used or has been used by a kit fox. Potential dens shall include the following: (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, or ground squirrel) that otherwise has appropriate characteristics for kit fox use.

"Natal or Pupping Den" - Any den used by kit foxes to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt and/or vegetation at one or more entrances. A natal den, defined as a den in which kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two, therefore, for purposes of this definition either term applies.

"Atypical Den" - Any manmade structure which has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.

CALIFORNIA DEPARTMENT OF FISH AND GAME  
REGION 4  
APPROVED SURVEY METHODOLOGIES  
FOR SENSITIVE SPECIES

TIPTON KANGAROO RAT, Dipodomys nitratoides nitratoides

Status: CE, FE

Methods: Live-trapping is the primary method for reliable Tipton kangaroo rat (TKR) identification (Williams, pers. comm.), but in many instances it may be possible to determine the probable presence of TKR on a site based on a variety of factors. Preliminary surveys to determine the probable presence of TKR should be based on range, presence of habitat, burrow characteristics, scat size, track measurements, and skeletal remains found in owl pellets. The locations of suitable habitat, potential burrows, and other sign should be reported to DFG and USFWS to determine if trapping will be necessary. Please note; these criteria can only be used for the determination of presence. The Department will not accept the use of these criteria to determine that the site is unoccupied by TKR.

Live-traps should be placed close to burrow entrances, along runways, and near rodent sign to increase trapping success. Flagging should be located at each trap or trap cluster with the number of traps at that location noted on the flagging to assure that all traps are checked. Traps should be baited with rolled oats, oatmeal, peanut butter or other appropriate bait. Traps should be monitored for four consecutive nights or until presence is confirmed. A minimum of 100 traps per 160 acres should be used.

Timing: TKR are active year around, but optimum activity periods occur from April 1 to June 30. If trapping studies are required by the agencies, the traps should be opened at sunset and checked and closed for the night after approximately four hours. Insulating materials may be placed in traps; but must be changed each time an animal is trapped. Species experts recommend using tightly wadded paper towels as insulating material. Dacron or similar materials should not be used in the traps.

May 2004

Dear Blunt-nosed Leopard Lizard Surveyor,

Attached is the revised survey methodology for the blunt-nosed leopard lizard (*Gambelia sila*). The protocol was developed by the San Joaquin Valley Southern Sierra Region (SVSSR) of the California Department of Fish and Game (DFG) with input from the United States Fish and Wildlife Service, the Bureau of Land Management and various species experts. This protocol supercedes previous versions of DFG survey protocols for the blunt-nosed leopard lizard. The range-wide decline of population numbers in the past decade has provided the impetus for development of a more rigorous methodology to detect species presence. Additionally, since DFG is not able to issue any form of "take" permit for the blunt-nosed leopard lizard due to its status as a fully-protected animal under the California Fish and Game Code **§5050**, detection of species presence on a project site is crucial.

This standard methodology has been developed to provide consultants, local, state and federal agencies with minimum acceptable standards for surveys conducted to determine the status of this State and federally endangered species. The survey methods described within this protocol were designed to optimize the likelihood of detecting the presence of blunt-nosed leopard lizards should they occur on a project site.

When the presence of blunt-nosed leopard lizards is detected, we request that you notify the Department's local Permitting and Project Review staff for further instructions of what additional information will be needed to assess the project's potential impact on the species. This will assist in expediting the review of the project and help control the project sponsor's biological survey costs. Additionally, the USFWS should be contacted for further advice since this is also a federally-listed species. Use of this protocol and notification of the Department does not exempt you from consultation with the USFWS.

The Department is willing to cooperate with surveyors who have circumstances or needs not addressed by this protocol and who may wish to propose alternative methods to comply with State law prohibiting take of BNLL. If you have any questions or comments regarding this methodology or if you want to propose the use of a different methodology, please the SVSSR Habitat Conservation Planning staff at (559) 243-4014 (Fresno, Merced, Madera, Kings, Tulare, and Kern Counties) or (805) 528-8670 (San Benito and San Luis Obispo Counties).

## CALIFORNIA DEPARTMENT OF FISH AND GAME

### APPROVED SURVEY METHODOLOGY FOR THE BLUNT-NOSED LEOPARD LIZARD MAY 2004

**Blunt-nosed leopard lizard, *Gambelia sila* = (*Gambelia silus*)**

**STATUS:** SE, FE, DFG fully protected

This protocol has been developed to provide a minimum level of protection for blunt-nosed leopard lizards (BNLL) when projects or maintenance activities are scheduled to occur within potential BNLL habitat. Disturbing activities should not proceed until appropriate surveys are conducted to determine if the species is present on the site. Surveys conducted according to the following protocol by qualified researchers provide a reasonable, although not conclusive, indication of BNLL presence at a particular site and yield critical information needed to prevent mortality and minimize impacts to the species. Researchers conducting the surveys are expected to understand the basic biological requirements of the species and have the ability to recognize potential BNLL habitat. This protocol satisfies the Department of Fish and Game requirements when it is determined that formal BNLL surveys are needed. [Note: This protocol is appropriate for pre-project BNLL surveys, however, population monitoring over time on a site is best conducted using a permanent survey grid, such as described in Tollestrup (1976).]

#### **METHODS:**

A minimum of two researchers, walking in parallel on adjacent transects, should conduct a BNLL survey. Optimum BNLL activity periods occur when air temperature is between 25C-35C (77F-95F) (Tollestrup 1976; USFWS 1985, 1998). Surveys must be conducted when the air temperature falls within the optimal range. Surveys may begin after sunrise as soon as the minimum air temperature criterion is met, and must end by 1400 hours or when the maximum temperature is reached, whichever occurs first (Tollestrup 1976). Time of day and air temperature should be recorded at the start and end of each survey. Air temperature should be periodically checked to ensure that the maximum has not been exceeded. Air temperature should be measured at 1-2 cm above the ground over a surface most representative of the area being surveyed. The researcher must shade the thermometer from direct sunlight while taking the reading. Other factors that affect BNLL activity such as soil temperature (measured at 1cm below soil surface with a shaded thermometer) and weather conditions must be recorded at the start and end of each survey. Surveys should not be conducted on overcast days (cloud cover > 90%) or when sustained wind velocity exceeds 10 mph (force > 3 on Beaufort wind scale) (Montanucci 1965; Tollestrup 1976; J. Vance, pers. comm.).

Surveys must be conducted on foot, and researchers must survey all areas with potential BNLL habitat. BNLL are often difficult to detect, particularly in areas where shrubs are fairly numerous (>30% cover) and/or the herbaceous vegetation is tall (>30 cm). In such conditions, 10 meter wide transects should be walked at a slow pace. In areas with few shrubs and shorter herbaceous vegetation (<15 cm), transects as wide as 30 meters are acceptable. When feasible, transects should be walked in a north-south orientation to minimize glare from the sun. The surveyor should stop periodically and scan the transect for BNLL using close-focusing binoculars (minimum 7X35 magnification). In addition to recording the location of all BNLL observed (must provide UTM coordinates), the presence of habitat features important for BNLL (washes, playas, relative abundance of small mammal burrows) should also be recorded for each transect. Streambeds, washes, roads, etc., should be walked in addition to transect lines since BNLL are often seen in these areas.

#### **TIMING AND LENGTH OF SURVEY:**

Survey intensity should be commensurate with the anticipated level of disturbance to the BNLL habitat. The primary concern for BNLL when disturbance occurs during maintenance activities is direct mortality from equipment or personnel. Removal of intact BNLL habitat has a much greater potential for “take” due to direct impact on animals aboveground as well as any hibernating animals or eggs underground. A longer survey effort including both spring adult surveys and fall hatchling surveys is therefore required for activities that cause impacts to undisturbed BNLL habitat. The more intensive survey effort increases the chances of observing the species, even if the population is small. Once a BNLL has been observed, surveys may cease and consultation with the Department must begin regarding avoidance measures. If BNLL are observed incidentally while conducting surveys for other species, specific surveys for BNLL are not required. Surveys will be accepted for one year from the date of completion.

#### **Disturbances for Maintenance Activities**

Examples of maintenance activities include grading existing roads, grass mowing on roadsides, and maintaining existing structures. BNLL are active and above ground from April through September, but optimum activity periods for adults occur between April 15 and July 15 (Montanucci 1965; Tollestrup 1979; USFWS 1985, 1998). BNLL surveys should be conducted for a total of 8 days over the course of the 90-day time span. A minimum of 3 survey days should be conducted consecutively, with a maximum of 6 days completed within any 30-day time period. Fall hatchling surveys are not required for activities in this category.

#### **Disturbances Leading to Habitat Removal**

Examples of disturbances that impact intact habitat include establishment of new roads or structures, housing subdivisions, and changes in historic land use. BNLL surveys should be conducted for 12 days over the course of the 90-day

adult optimal survey period (April 15 to July 15), with a maximum of 4 survey days per week and 8 days within any 30-day time period. At least one survey session should be conducted for 4 consecutive days, weather permitting. BNLL hatchlings and subadults are most commonly observed from August 1 to September 15, along with a few adults that are still active above ground (Montanucci 1965; Tollestrup 1979; USFWS 1985, 1998). In addition to the 12 days of adult BNLL surveys required for activities in this category, 5 more survey days are required during the hatchling optimal survey period for a total of 17 survey days overall.

#### **QUALIFICATIONS OF RESEARCHERS:**

An acceptable BNLL survey crew should consist of no more than 3 Level I researchers for every Level II researcher. This restriction should reduce the number of incorrect/missed identifications. The names and affiliations of all researchers must be recorded for each survey day.

Level I: Researcher has demonstrated the ability to distinguish BNLL from other common lizard species that may inhabit the area;

Level II: Researcher has demonstrated the ability to distinguish BNLL from other common lizard species that may inhabit the area and has participated in at least 50 survey days for BNLL (or 25 survey days and a BNLL identification course recognized by/acceptable to the Department of Fish and Game). Researcher has made at least one confirmed\* field sighting of a BNLL.

#### **REPORTING**

All BNLL observations should be reported to the California Natural Diversity Database within 30 days. A sample form is attached. Additional forms can be obtained at <http://www.dfg.ca.gov/whdab/html/animals.html>.

#### **SPECIAL REQUIREMENT FOR SURVEYS IN DFG CENTRAL COAST REGION (San Luis Obispo County)**

Lands with potential BNLL habitat in the Department's Central Coast Region (CCR) have different conditions compared to the San Joaquin Valley Southern Sierra Region (SJVSSR). The sites with habitat in the CCR tend to be at higher elevations, where nighttime temperatures can remain low even though daytime temperatures meet minimum survey criteria. In such conditions, BNLL activity is likely to be low and surveys conducted at this time could result in non-detection of the species even though they are present. As such, an additional requirement of a visit to a known voucher site to check for BNLL activity applies to surveys conducted in this region. Once the species has been observed at the voucher site, formal surveys can begin. The Elkhorn Plain ER has been selected as the voucher site for the CCR.



## LITERATURE CITED

- Montanucci, R.R., 1965. Observations of the San Joaquin leopard lizard, *Crotaphytus wislizenii silus* Stejneger. *Herpetologica* 21(4): 270-283.
- Tollestrup, K. 1976. A standardized method of obtaining an index of densities of blunt-nosed leopard lizards, *Crotaphytus silus*. Unpub. Rpt. U. S. Fish and Wildlife Service, Sacramento, CA. 11pp + Appendices.
- Tollestrup, K. 1979. The ecology, social structure, and foraging behavior of two closely-related leopard lizards, *Gambelia silus* and *Gambelia wislizenii*. PhD Dissertation, University of California Berkeley.
- United States Fish and Wildlife Service. 1985. Revised blunt-nosed leopard lizard recovery plan. United States Fish and Wildlife Service. Region 1, Portland, OR. 85 pp.
- United States Fish and Wildlife Service. 1998. Recovery plan for upland species of the San Joaquin Valley, California. United States Fish and Wildlife Service. Region 1, Portland, OR. 319 pp.

## PERSONAL COMMUNICATIONS

Julie Vance, California Department of Water Resources, San Joaquin District, 3374 E. Shields Ave, Fresno, California, 93726.

\*A minimum of one confirmed field sighting must be documented for each Level II researcher and be available to the Department upon request. As with all BNLL sightings, it should also be submitted to the California Natural Diversity Database. Information to be included in documentation of BNLL sighting: Name of researcher, date of survey, location of survey, names of accompanying researchers who can confirm the sighting, and details of sighting (distance, BNLL activity, etc).

## CONTACT INFORMATION

### California Department of Fish and Game

San Joaquin Valley Southern Sierra Region  
Habitat Conservation Planning  
1234 Shaw Ave  
Fresno, CA 93710  
559/243-4005

Central Coast Region  
Habitat Conservation Planning  
P.O. Box 47  
Yountville, CA 94599  
805/528-8670

.....  
The Department is willing to cooperate with researchers who have circumstances or needs not addressed by this protocol and who may wish to propose alternative methods to comply with State law prohibiting take of BNLL.

---

**DRAFT ENVIRONMENTAL ASSESSMENT**

*BUENA VISTA WASTER STORAGE DISTRICT  
BV8 STATE WATER PROJECT TURNOUT*

**Appendix E**  
**SHPO Concurrence Letter**

---

August 2010

**OFFICE OF HISTORIC PRESERVATION  
DEPARTMENT OF PARKS AND RECREATION**

P.O. BOX 942896  
SACRAMENTO, CA 94296-0001  
(916) 653-6624 Fax: (916) 653-9824  
calshpo@ohp.parks.ca.gov  
www.ohp.parks.ca.gov



June 01, 2010

In Reply Refer To: BUR100520B

Michael A. Chotkowski  
Regional Environmental Officer  
United States Department of the Interior  
Bureau of Reclamation  
Mid-Pacific Regional Office  
2800 Cottage Way  
Sacramento, CA 95825-1898

Re: Buena Vista Water Storage District Outlet Canal Reoperation Project, Kern County, California (Project No. 10-SCAO-013).

Dear Mr. Chotkowski:

Thank you for consulting with me regarding the above noted undertaking. Pursuant to 36 CFR Part 800 (as amended 8-05-04) regulations implementing Section 106 of the National Historic Preservation Act (NHPA), the Bureau of Reclamation (BUR) is the lead Federal agency for this undertaking and is seeking my comments on the effects that the proposed project will have on historic properties. The BUR is proposing to award a Water for America Challenge Grant to the Buena Vista Water Storage District (BVWSD) to fund the construction of the Outlet Canal Reoperation Project in Kern County. The BUR has identified this use of federal funds as an undertaking subject to review for compliance with Section 106 regulations.

The project will consist of the construction of a new 1,510-foot long water pipeline that will extend from the California Aqueduct to the Westside Canal in western Kern County approximately 15 miles west of Bakersfield. The 78-inch diameter pipeline will be installed underground and will include the construction of a new reinforced concrete turnout on the Aqueduct and a new outlet structure on the Westside Canal. Additional project elements include a new electrical building and concrete standpipe near the Aqueduct inlet structure. The trench for the new pipeline will be approximately 10-feet wide at the bottom, 30-feet wide at the top, and will range in depth from 13-22 feet. A temporary cofferdam will be used during construction within the Aqueduct and the Westside Canal. Four alternative routes were originally identified (all four were assessed during the archaeological survey) for the proposed pipeline, with Alternative 4 being selected for construction. The BUR has determined that the area of potential effects (APE) consists of the locations of all of the proposed project developments along with staging and access locations, totaling an area of approximately four acres. In addition to your letter of May 20, 2010 and attachments (maps and aerial photographs),

BUREAU OF RECLAMATION OFFICIAL FILE COPY RECEIVED		
JUN 11 2010		
CODE	ACTION	SURNAME & DATE
ISO	✓	
ISO	✓	ASB Perry 6/1/2010

Project	10044-889
Contents	1080626
Folder I.D.	6-11-2010
Date Input & Initials	6-11-2010

you have submitted the following document as evidence of your efforts to identify and evaluate historic properties in the project APE:

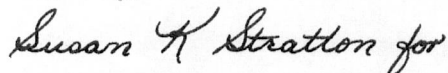
- *A Cultural Resources Assessment for Three Possible Locations for a Water Turnout and Underground Pipeline from the California Aqueduct to the West Side Canal, Kern County, California* (Catherine Lewis Pruett, Three Girls and a Shovel, LLC: October 2008, Revised April 2010).

Efforts by the BUR to identify historic properties have concluded that there are three cultural resources within the APE (Alternative 4). IF1 is a prehistoric obsidian isolate that is not an historic property under National Register of Historic Places criteria. The California Aqueduct and the Westside Canal are linear water conveyance features of which, 100-foot (approximate) sections of each are within the APE. The Westside canal segment is an unlined earthen canal with a top width of approximately 25-feet. The California Aqueduct segment is concrete lined with a top width of 40-feet and a depth of 30-feet. The Aqueduct is the central feature of the California State Water Project and at 450-miles long is the longest water channel in California. The Westside Canal was apparently built in the late 19<sup>th</sup> century and was acquired by BVWSD in 1929. Neither of these linear historic properties has been previously evaluated under NRHP criteria. The BUR acknowledges that both of these linear water conveyance features are likely eligible for the NRHP, the California Aqueduct under criteria A and C, and the Westside Canal under criterion A.

The BUR cannot, within the constraints of this undertaking, adequately evaluate these historic properties under NRHP criteria and is instead proposing to treat both canals as eligible for the NRHP for the purposes of this undertaking. Under this strategy, the BUR has concluded that the developments proposed for this project are standard facility upgrades and modifications that will not adversely affect either the California Aqueduct or the Westside Canal. Once the proposed pipeline, turnout, and outlet are completed and buried, the Aqueduct and Westside Canal will be returned to their original appearance and function, with the exception of several aboveground features (electrical building and standpipe). The BUR has consequently concluded that this undertaking can be constructed with a finding of No Adverse Effect pursuant to 36 CFR Part 800.6(b).

After review of your letter and supporting documentation, I have no objection to your finding of No Adverse Effect for this undertaking. Be advised that under certain circumstances, such as unanticipated discovery or a change in project description, the BUR may have additional future responsibilities for this undertaking under 36 CFR Part 800. Thank you for seeking my comments and for considering historic properties in planning your project. If you require further information, please contact William Soule, Associate State Archeologist, at phone 916-654-4614 or email [wsoule@parks.ca.gov](mailto:wsoule@parks.ca.gov).

Sincerely,



Milford Wayne Donaldson, FAIA  
State Historic Preservation Officer

---

**DRAFT ENVIRONMENTAL ASSESSMENT**

*BUENA VISTA WASTER STORAGE DISTRICT  
BV8 STATE WATER PROJECT TURNOUT*

**Appendix F**  
**Environmental Documentation**

---

August 2010

## Healer, Rain L

---

**From:** Lewis, Jennifer  
**Sent:** Thursday, August 19, 2010 11:14 AM  
**To:** Healer, Rain L  
**Subject:** FW: BVWSD Turnout Canal EA-09-80

Greetings, Rain,

I had a chance to review BVWSD Turnout Canal Project (EA-09-80) for potential impacts to biological resources. This EA outlines that the Project may adversely affect San Joaquin kit fox and Tipton kangaroo rat, but would not affect Blunt-nosed leopard lizard. BVWSD and its subcontractors will implement Avoidance and Minimization Measures to avoid and reduce environmental consequences to these listed species. No effect to any other federally protected species is anticipated. Reclamation is consulting with the U.S. Fish and Wildlife Service seeking their concurrence on a finding of adverse effects to San Joaquin kit fox and Tipton kangaroo rat. The EA will not be finalized until consultation is complete.

Please place a copy of this email with the administrative record.

Thank you,

Jennifer L. Lewis  
Wildlife Biologist  
U. S. Bureau of Reclamation  
South-Central California Area Office  
work: 559-487-5197  
1243 "N" Street  
Fresno, CA 93721-1831

## Healer, Rain L

---

**From:** Barnes, Amy J  
**Sent:** Monday, June 14, 2010 8:39 AM  
**To:** Healer, Rain L  
**Cc:** MPR Cultural Resources Section  
**Subject:** BVWSD Outlet Canal Reoperation Project (10-SCAO-013)  
**Attachments:** 10-SCAO-013 BVWD Canal SHPO reply 06-01-10.pdf

Tracking #10-SCAO-013

Project: Buena Vista Water Storage District Outlet Canal Reoperation Project

Location: Kern County; East Elk Hills 7.5' USGS topographic quadrangle maps.  
sec. 9 and 16, T. 30 S., R. 24 E., Mount Diablo Meridian

The activities associated with Reclamation awarding a Water for America Challenge Grant to the Buena Vista Water Storage District (BVWSD) for their Outlet Canal Reoperation Project will result in no adverse effects to historic properties. BVWSD proposes to construct a 1,510-foot-long pipeline that will provide direct delivery from the Aqueduct to the Westside Canal, bypassing the existing turnouts and reducing water loss in the earthen Outlet Canal. Pipeline construction will involve installing a 78-inch-diameter underground reinforced concrete pipe; constructing a new reinforced concrete turnout on the Aqueduct; constructing a new outlet structure in the Westside Canal; constructing a 10 foot by 12 foot concrete electrical building within 100 to 200 feet of the eastern side of the Aqueduct inlet structure; installing a 9-foot-tall, 36-inch-diameter concrete standpipe between the electrical building and the Aqueduct turnout structure. The trench for the pipeline will range from 13 feet deep up to 22 feet deep with a bottom width of about 10 feet and a top width measuring about 30 feet. The pipeline will include a 78-inch magnetic flow meter within a concrete vault and a pitot tube near the Aqueduct, and a 66-inch butterfly valve near the Westside Canal. The new Aqueduct turnout will be approximately 20 feet tall, 19 feet wide, and 54 feet long. The turnout will include a 78-inch cast iron sluice gate with automatic actuator, trash racks, and galvanized steel handrails measuring approximately 4 feet tall by 12 feet wide. The discharge bay of the new Westside Canal outlet structure will be approximately 17 feet wide, 25 feet long, and 14 feet tall. The discharge area around the outlet structure will be reinforced with about 167 cubic yards of 12-inch-thick rock rip-rap above a 6-inch-deep gravel bed to reduce erosion. The outlet structure will also have 5-foot-tall by 18-foot-wide galvanized steel handrails. A temporary cofferdam will be installed to facilitate work within the Aqueduct and Westside Canal.

Construction equipment would include 120- to 135-horsepower excavators, concrete breakers, compaction wheels, cranes, loader backhoes, graders, dump trucks, dewatering pumps, and shoring and bracing equipment. Existing paved and gravel roads, primarily Stockdale Highway, Dairy Road, Adohr Road, Tupman Road, and existing farm and canal roads, will be used to access the project area. No improvements will be made to the access roads. Staging will occur on the existing Westside Canal and Aqueduct service roads and along the new pipeline alignment on either side of the river channel. Excavated materials will be used to backfill the trench if they meet engineering and construction standards. Additional fill material will be obtained from a commercial source, if necessary. Excess fill material will be removed from the project site. Once installation of the pipeline is complete, the Westside Canal, Aqueduct, and river channel will be returned to their original condition and grade.

BVWSD contracted Three Girls and A Shovel, LLC to conduct a cultural resources survey of four alternative routes, Alternative 4 being chosen for the pipeline (the APE). The only cultural resources located within the APE are a 100-foot-long portion of the Westside Canal and a 100-foot-long portion of the California Aqueduct. Reclamation consulted with SHPO regarding this undertaking and a finding of no adverse effects to historic properties pursuant to 36 CFR Part 800.5(b) on May 20, 2010. SHPO concurred with Reclamations' determination and findings on June 1, 2010.

As the proposed action will not affect historic properties, and SHPO has concurred, Reclamations' responsibilities under Section 106 of the National Historic Preservation Act are fulfilled.

Thank you for the opportunity to review the proposed action. Please place a copy of this concurrence and attached correspondence with the EA administrative record.

Amy J. Barnes  
Archaeologist  
U.S. Bureau of Reclamation  
Mid-Pacific Region, MP-153  
2800 Cottage Way  
Sacramento, CA 95825  
916-978-5047  
[abarnes@usbr.gov](mailto:abarnes@usbr.gov)



## Healer, Rain L

---

**From:** Rivera, Patricia L  
**Sent:** Thursday, October 08, 2009 1:53 PM  
**To:** Healer, Rain L  
**Subject:** RE: CEC-09-80 Buena Vista WSD Outlet Canal Reoperation Project

Rain,

I reviewed the proposed action to award a Water for America Challenge Grant to Buena Vista Water Storage District for their Outlet Canal Reoperation Project. The project would require work between the California Aqueduct and the Westside Canal including:

- Construction of a 1,510-foot long 78-inch diameter underground reinforced concrete pipeline (RCP) between the Aqueduct and Westside Canal (Figures 3 and 4). The pipeline would include: a 78-inch magnetic flow meter (Alt. 1) or Venturi tube (Alt 2) within a reinforced concrete vault near the Aqueduct, a pitot tube near the Aqueduct, and a 66-inch butterfly valve near the Westside Canal.

Construction of a new reinforced concrete turnout on the Aqueduct. The new turnout would be approximately 20-foot tall, 19-foot wide, and 54-foot long. The turnout would include a 78-inch cast iron sluice gate with automatic actuator, trash racks, and approximately four-foot tall by 12-foot wide galvanized steel handrails. Work within the Aqueduct would require the placement of a cofferdam to restrict flow. The cofferdam would be left in place for three months reducing maximum flow by approximately 50 percent over the three month time period.

- Construction of a new outlet structure in the Westside Canal. The discharge bay of the outlet structure would be approximately 17-foot wide, 25-foot long, and 14-foot tall. The discharged area around the outlet structure would be reinforced with approximately 167 cubic yards of 12-inch thick rock rip-rap above a six inch gravel bed to reduce erosion. The outlet structure would also have five-foot tall by 18-foot wide galvanized steel handrails
- Construction of a 10-foot by 12-foot concrete electrical building on the eastern side of the RCP within 100-200 feet of the Aqueduct inlet structure.
- Installation of a 36-inch diameter concrete standpipe adjacent to the electrical building within 50-75 feet of the Aqueduct inlet structure. Standpipe would be approximately nine feet tall above ground.

RCP excavation would be 13-feet deep on average, 10-foot wide at the bottom and up to 30-foot wide at the top. There would be a 2:1 slope where there is no shoring or bracing in the excavations. In the right-of-way (ROW) of the Aqueduct, excavation would be approximately 22-feet deep. In the ROW of the Westside Canal, excavation would be approximately 18-feet deep. Temporary trenching would occur across the Kern River flood channel. Once installation of the RCP is complete, the river channel would be returned to its original condition and grade.

Ground disturbance for the whole project would be approximately three acres (9,000 cubic yards). Removed material would be used to backfill excavations if they fulfill engineering and construction standards. If necessary, additional fill that meets engineering and construction standards would be brought in to the project site to fill in excavations. Any excavated materials not used would be removed from the project site.

Construction equipment would include: 120-135 horsepower excavators, concrete breakers, compaction wheels, cranes, loader backhoes, graders, dump trucks, dewatering pumps (possibly), and shoring and bracing equipment. Construction would take approximately eight months to complete.

Prior to construction within the Kern River Flood Channel, BVWSD would submit all appropriate applications for working within a waterway including:

- California Department of Fish and Game Streambed Alteration Agreement
- California Department of Water Resources
- U.S. Army Corps of Engineers Section 404
- California Regional Water Quality Control Board Section 401

The proposed action does not affect Indian Trust Assets. The nearest ITA is Tule River Reservation approximately 55 miles NE of the project location.

Patricia