RECLAMATION

Managing Water in the West

Draft Environmental Assessment

Vegetation and Sediment Maintenance Program at Los Banos Detention Dam

EA-09-100

U.S. Department of the Interior
Bureau of Reclamation
Mid-Pacific Region
South-Central California Area Office
Fresno, California

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List of Acronyms, Abbreviations and Definition of Terms

APE	Area of Potential Effects
CARB	California Air Resources Board
CCAA	California Clean Air Act
cfs	cubic feet per second
CNDDB	California Natural Diversity Database
CO	Carbon monoxide
CVRWQCB	Central Valley Regional Water Quality Control Board
Corps	United States Army Corps of Engineers
CWA	Clean Water Act
DFG	California Department of Fish and Game
DWR	California Department of Water Resources
GHG	greenhouse gas
ITA	Indian Trust Asset
LBDD	Los Banos Detention Dam
National Register	National Register of Historic Places
NHPA	National Historic Preservation Act
NO_x	Nitrous oxides
O_3	Ozone
$PM_{2.5}$	Particulate matter less than 2.5 microns in diameter
PM_{10}	Particulate matter less than 10 microns in diameter
ppm	parts per million
Reclamation	Bureau of Reclamation
SHPO	California State Historic Preservation Officer
State Parks	California Department of Parks and Recreation
SO_2	Sulfur dioxide
USFWS	United States Fish and Wildlife Service
$\mu g/m^3$	microgram per cubic meter
VDE	Visible Dust Emissions

Section 1 Purpose and Need for Action

1.1 Background

Los Banos Creek, an intermittent creek, begins in the Diablo Range in San Benito County. It then flows into western Merced County where it is dammed at the Los Banos Detention Dam (LBDD) (Figure 1-1). The dam was built by the Bureau of Reclamation (Reclamation) in 1966 to detain floodwater from Los Banos Creek in order to protect the San Luis Canal (Reclamation-owned portion of the California Aqueduct), the city of Los Banos, and the surrounding farmlands. It is an earthen dam with a height of 167 feet and a length of 1,370 feet, and has a 26,300 acre-foot capacity. Outflow passes through an outlet spillway into the creek with a maximum discharge of 8,600 cubic feet per second (cfs). Please see Figures 1-1 and 1-2 for location information and a photograph. Also, the California Department of Parks and Recreation (State Parks) manages the Reclamation-owned, land at the Los Banos Creek Reservoir, as part of the San Luis Reservoir State Recreation Area.

The LBDD is a joint-use facility owned by Reclamation and operated and maintained by the Department of Water Resources (DWR). The reservoir level is typically maintained at or near the top of its active storage of 327.8 feet. Releases through the outlet works are made according to flood control criteria specified by the United States Army Corps of Engineers (Corps) or through scheduled exercising of the flood gates. The dam has two discharge lines and a spillway that releases water into a basin at the toe of the dam. The outflow from the reservoir passes from the outlet works and/or the spillway into the existing Los Banos Creek channel. The water is then carried under the San Luis Canal by a six barrel culvert. The safe downstream channel capacity below the dam is 1,000 cfs.

Reclamation performs safety inspections on dams that fall under the jurisdiction of the Federal Dam Safety Program. Under the Dam Safety Program, Reclamation regularly monitors, examines and evaluates the performance of dams in its inventory to ensure facilities do not present unreasonable risks to the public, property, or the environment. Issues are evaluated in terms of loading conditions, structural response and the potential consequences of dam failure. When risks are determined to be unreasonable, corrective actions are formulated and implemented.

Both Reclamation and DWR's Division of Safety of Dams have completed numerous inspections of the LBDD and have classified it as high risk. The water is designed to flow away from the dam, following its natural channel. Over time, cattails and tules have grown around this lower basin and the discharge path, preventing proper drainage and causing water to back up into the surrounding area. The dam also has a toe drain which is the primary source of warning if the dam is experiencing problems with holding water. With the heavy growth of vegetation and improper drainage, this valuable tool has been rendered useless.

On August 22, 2008 DWR's San Luis Field Division performed the LBDD Slide Gate exercise. After a small release from LBDD, water backed up on and across Canyon Road, the access road for Los Banos Reservoir. This was caused because the water had dammed up on the road due to the overgrowth of reeds and tules in the spillway channel (the vegetation holds pooled water).

The water that was released ponded and caused two State Park visitors to sustain vehicle damage.

1.2 Purpose and Need

The regional hydrology downstream of the LBDD has been severely altered due to the continual accumulation of debris and sediment, along with rapid vegetation growth and expansion for over 15 years. The elevation design for the maximum flow of 8,600 cfs is 233.5 feet. The deposits have altered the region by increasing the ground elevation along the channel and the surrounding areas. With the increase in ground elevation, water flows at a higher elevation, consequently violating the original plan for the dam. Leaving the ground level at its current state poses a major threat to not only the Ranger Station, the Park Kiosk, Park Staff, the people who intend to use the area for recreational purposes, but can also threaten the structures downstream of the spillway and outlet works.

Leaving the vegetation unchecked could contribute to potential problems relating to the underground chutes and culverts downstream of the LBDD. During major water releases, trees, brush, sediments and other debris could be dislodged and be transported to the chutes and culverts which could result in blockage. The blockage of the chutes and culverts could pose a structural hazard to the San Luis Canal and the Interstate-5 freeway.

The purpose of this project is to improve water flow downstream from the dam. This would improve DWR's ability to monitor drainage from the toe drain which would allow them to detect problems with the dam and to protect downstream facilities including the San Luis Canal and the City of Los Banos, and prevent loss of access and unsafe access conditions for the recreation area.

1.3 Applicable Regulatory Requirements

The Proposed Action would require avoidance measures to protect State and Federally listed species, and compliance with the Migratory Bird Treaty Act. The DWR would obtain a Streambed Alteration Agreement with the California Department of Fish and Game (DFG). The Proposed Action must also comply with the Clean Air Act and the San Joaquin Valley Unified Air Pollution District's Regulation VIII, Fugitive PM_{10} Prohibitions. A section 404 of the Clean Water Act (CWA) permit would be needed for the Proposed Action, and therefore, a section 401 water quality certification would also be required.

1.4 Potential Issues

- Aesthetics
- Air Quality and Global Climate Change
- Biological Resources
- Cultural Resources
- Environmental Justice

- Hydrology and Water Quality
- Indian Trust Assets
- Recreation
- Wetlands/other Waters

The proposed action area does not include any minority or disadvantaged populations (see page 29) or any Indian Trust Assets (ITAs) in the proposed action area (also see page 29), these resources are not considered further in this environmental assessment.

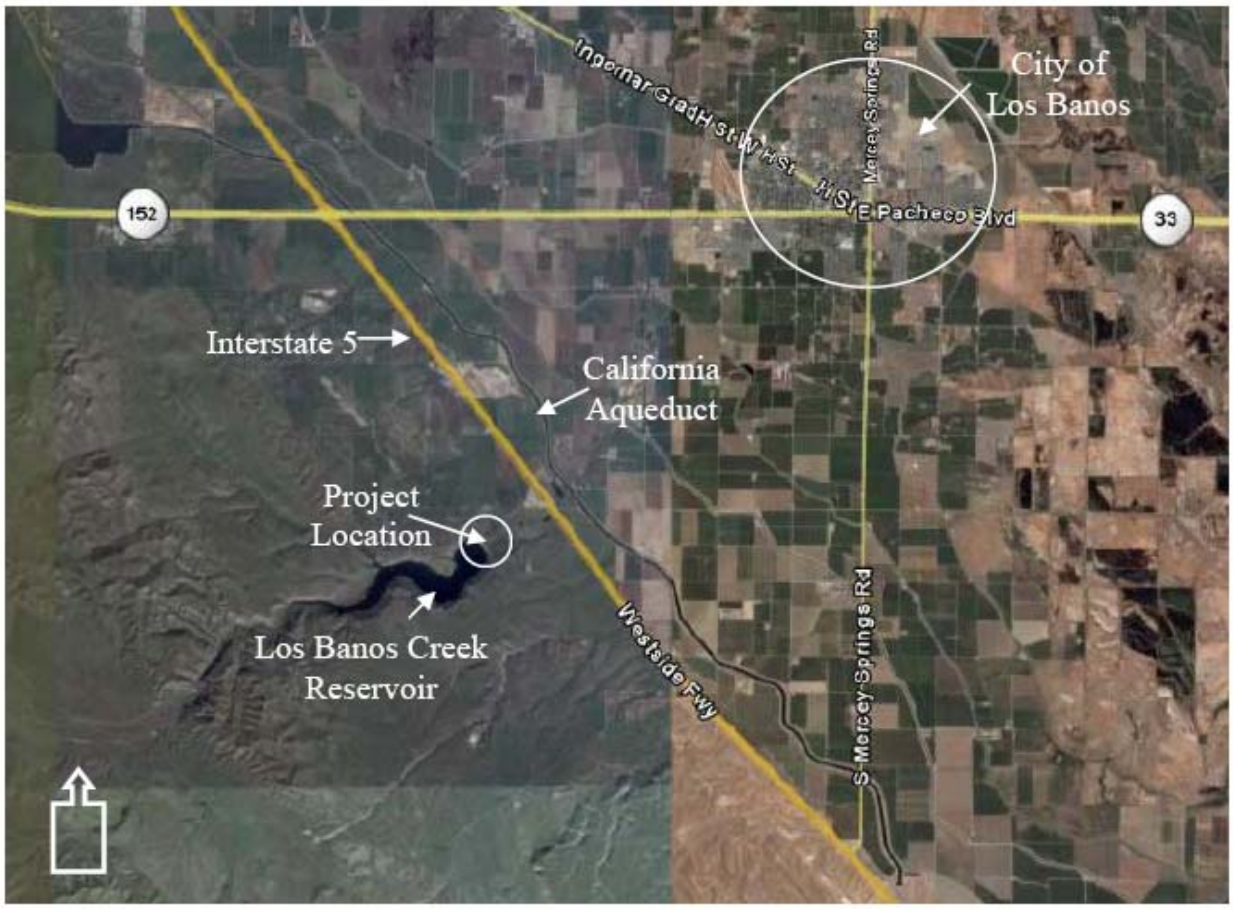

Figure 1-1. Los Banos Detention Dam and surrounding areas.

Figure 1-2. Photo of Los Banos Detention Dam and Reservoir, looking west.

Section 2 Alternatives Including Proposed Action

2.1 No Action

Under the No Action Alternative, DWR would not conduct vegetation and sediment removal activities over the next 10 years. DWR would continue to access the site to monitor flood releases at LBDD, although these monitoring activities would be increasingly difficult. Problems with released water ponding and blocking off the access road would likely continue.

2.2 Proposed Action

The objectives of this project are: 1) to remove vegetation, which includes trees that were pre-approved for removal from the outflow channel and the basin and 2) to restore the 'horseshoe' area (see Figure 2-1) close to original design and specifications.

Reclamation and DWR propose to implement a 10-year program to remove accumulated vegetation and sediment at the LBDD. The maintenance program would be conducted by DWR's Civil Maintenance Branch of the San Luis Field Division Operations and Maintenance once every three to five years. Work would include the removal of vegetation and sediment from: the spillway of LBDD, the creek, and the Dam face (Figure 2-1). Maintenance activities would involve removal of emergent wetland vegetation, primarily cattails (*Typha* sp.). A biannual herbicidal spray program using Rodeo (no surfactant), or similar products, would be established.

The estimated project footprint, excluding the quarry areas, is 12.25 acres. The Basalt Hill quarry is approximately 150 acres in size. The channel clearance, including the box culvert, would encompass an area of 3.38 acres. Total area of all the access roads would have an area of 0.84 acres. The riprap would have an area of 0.25 acres. The remainder, 8.78 acres, would be used as spoil area with two habitat areas included. These habitat areas would consist of piled mesquite branches, etc. that can be used for cover by wildlife. Assuming an average excavation depth of four feet, the volume of displaced material coming out of the channel clearance is approximately 79,000 cubic yards. A total of about 1,200 cubic yards of riprap material would be used to completely restore the rip rap area.

Two upland, disturbed areas (Spoil Areas 1 and 2) would be used to deposit material collected from the channel restoration. This area has been used in the past to create a habitat area. Cleared brush has been piled in the area to create habitat for birds and other wildlife. This area would be extended. A bulldozer would be used to distribute the materials taken during channel clearance within the spoils area. Spoil Area #1 is located to the south of the channel. It has an area of more than five and a half acres. Spoil Area #2, located north of the channel, has an area of almost three acres. Woody vegetation would be placed in low level piles to create a habitat area in either of the two designated areas within the spoil areas (Figure 2.2).

Project Location

The Proposed Action area for vegetation and sediment removal activities is located in Los Banos Creek, southwest of Los Banos, and southeast of the San Luis Reservoir, in western Merced County in the Ortigalita Peak USGS quadrangle map, Township 11.0 South, Range 9.0 East, Section 12. Los Banos Creek drains about 160 square miles of the Diablo Range. The dam site is located at a constriction in the Los Banos Creek Canyon where the creek leaves the Coast Range and emerges onto the San Joaquin Valley. The LBDD and project area is immediately below Los Banos Reservoir (Figures 2-1 and 2-2). The site can be accessed by taking CA-99 to CA-152 West, turning left onto Ortigalita Rd., right onto Pioneer Rd., and left onto Canyon Rd. Basalt Hill, which would be used to obtain fill for the work at LBDD, is located on the south side of the San Luis Reservoir (see Figure 2-3). Basalt Hill is in the San Luis Dam quadrangle, Township 10.0 South, Range 8.0 East, Section 33. This site can be accessed by taking Highway 152 to San Luis Reservoir, seven miles west of I-5, or 33 miles east of Highway 101 from Gilroy.

The first part of the project area is the outlet works for the LBDD which is located in Merced County, California (Figure 2-1). Los Banos Detention Dam is approximately seven miles southwest of Los Banos and eight miles southeast of the San Luis Reservoir.

The second part of the project area is the Los Banos Creek box culvert crossing Canyon Road (Figure 2-1). The culvert is approximately five miles southwest of Los Banos and nine miles southeast of San Luis Reservoir.

The final part of the project area is Basalt Hill (Figure 2-3, where riprap and earthen fill would be quarried for riprap replacement and berm/road work. It is located on Reclamation land, managed by DWR, on the south side of the San Luis Reservoir in Merced County. The site is a basalt rock quarry that was first primarily used for the rip rap bedding along the embankment of Sisk Dam. There is no current mining operation. The site is very disturbed and consists primarily of exposed hill sides and scattered rock piles.

Project Activities

The vegetation and sediment clearance work is broken up into different zones, based on the timing and type of work to be done in different areas. Work to clear vegetation and sediment from the channel downstream of the spillway and outlet works would progress in an upstream, or a south-west direction. Clearing work would begin with the channel section in Zone 1 (Figure 2-1) that is downstream, or east of Canyon Road. It would be cleared an average of 283 feet in length (along the centerline) and over an 80 foot width using a long reach excavator. The excavator would work outward from the center of the channel and place the debris material in a dump truck. The debris would be discarded into one of the two spoil areas, where it would be left (see Figure 2-1).

Two upland, disturbed areas (Spoil Areas 1 and 2) would be used to deposit material collected from the channel restoration. This area has been used in the past to create a habitat area. Cleared brush has been piled in the area to create habitat for birds and other wildlife. This area will be extended. A dozer would be used to distribute the materials within the spoils area. Spoil Area #1 is located to the south of the channel. It has an area of more than five and a half acres. Spoil Area #2, located north of the channel, has an area of almost

three acres. Woody vegetation would be placed in low level piles to create a habitat area in either of the two designated areas within the spoil areas (Figure 2.2).

Once Zone 1 has been cleared the excavator would be repositioned on the upstream or west side of Canyon Road in Zone 2. Along the centerline, this area consists of a 480 foot long by 80 to100 feet wide channel approach to the outlet works. The excavator would work outward from the center of the channel; material would be scooped out, placed into a dump truck, and discarded into one of the two spoil areas.

The excavator would not clear the area surrounding the pooled water until the channels are cleared to keep the work area dry. Work would continue at the "Y" of the stream bed in an upstream, or north-west direction toward the spillway, Zone 3. This area is approximately 275 feet (along the centerline) in length and 140 feet wide. The excavator would work from the center of the channel.

Zone 4, with an area just above 0.25 acre (about 200 feet long), would be cleared last. Unlike other zones, Zone 4 would not need to undergo an elevation alteration in order to restore it to the original design; smaller brush would be mowed and non-native trees would be pulled out of the soil (Figure 2-1). When all the Zones are cleared, the excavator would work from the northern channel bank and the southern channel bank until the vegetation is removed.

Zone 5 (culvert area) would encompass an area roughly 255 feet long by 110 feet wide (Figure 2-2). The existing north and south banks would be used to allow equipment access to clean the channel and the project area. The vegetation removal would be done in an east to west direction using a long reach excavator.

Once Zones 1 through 4 have been cleared and work to clear Zone 5 starts, DWR's Precise Survey Team would then survey Zones 1 to 4 to designate the proper ground elevation requirements at key points. When all the Zones are cleared to the proper ground elevation, the excavator would begin removing the vegetation holding the pooled water. The excavator would work from the northern channel bank and the southern channel bank until the vegetation is removed. The rip rap in Zones 2, 3 and 4, would be repaired if necessary with 10-inch diameter or greater rip rap material quarried from Basalt Hill.

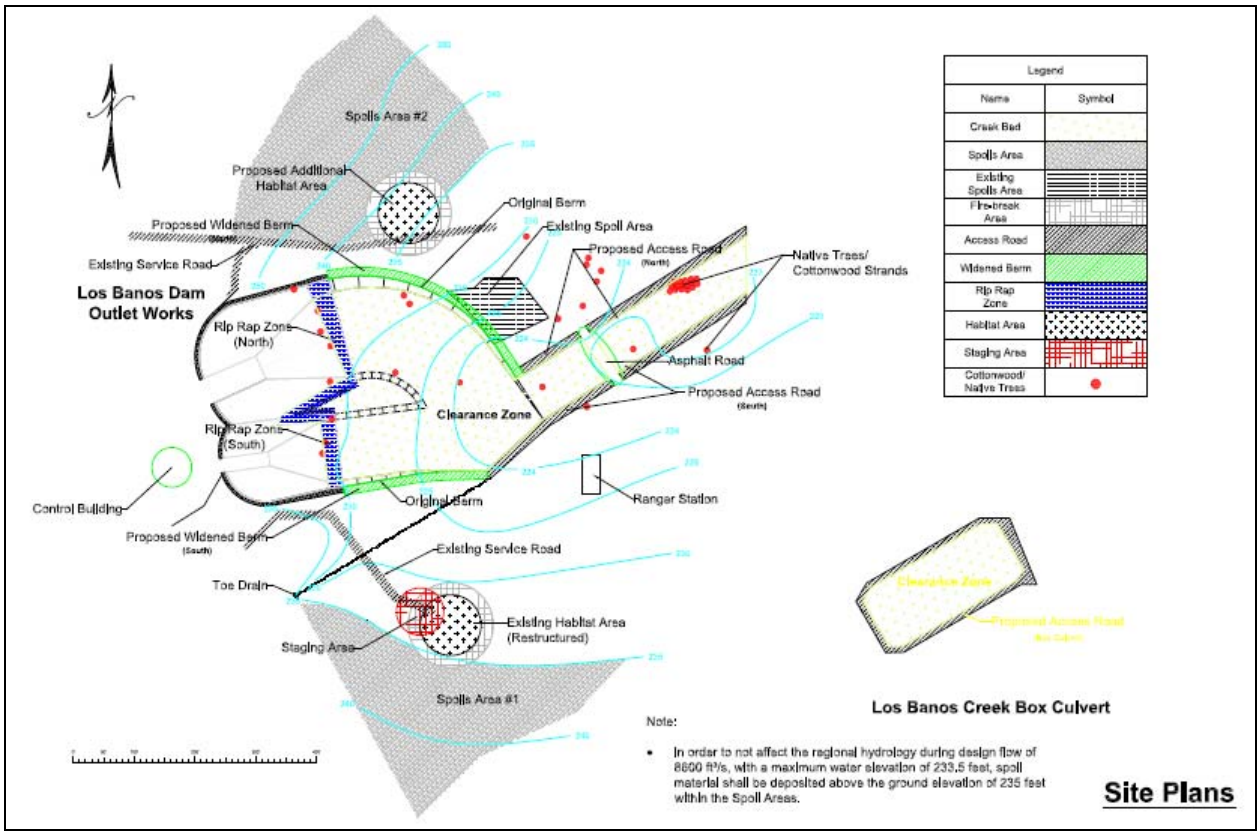

Figure 2-1. Project layout.

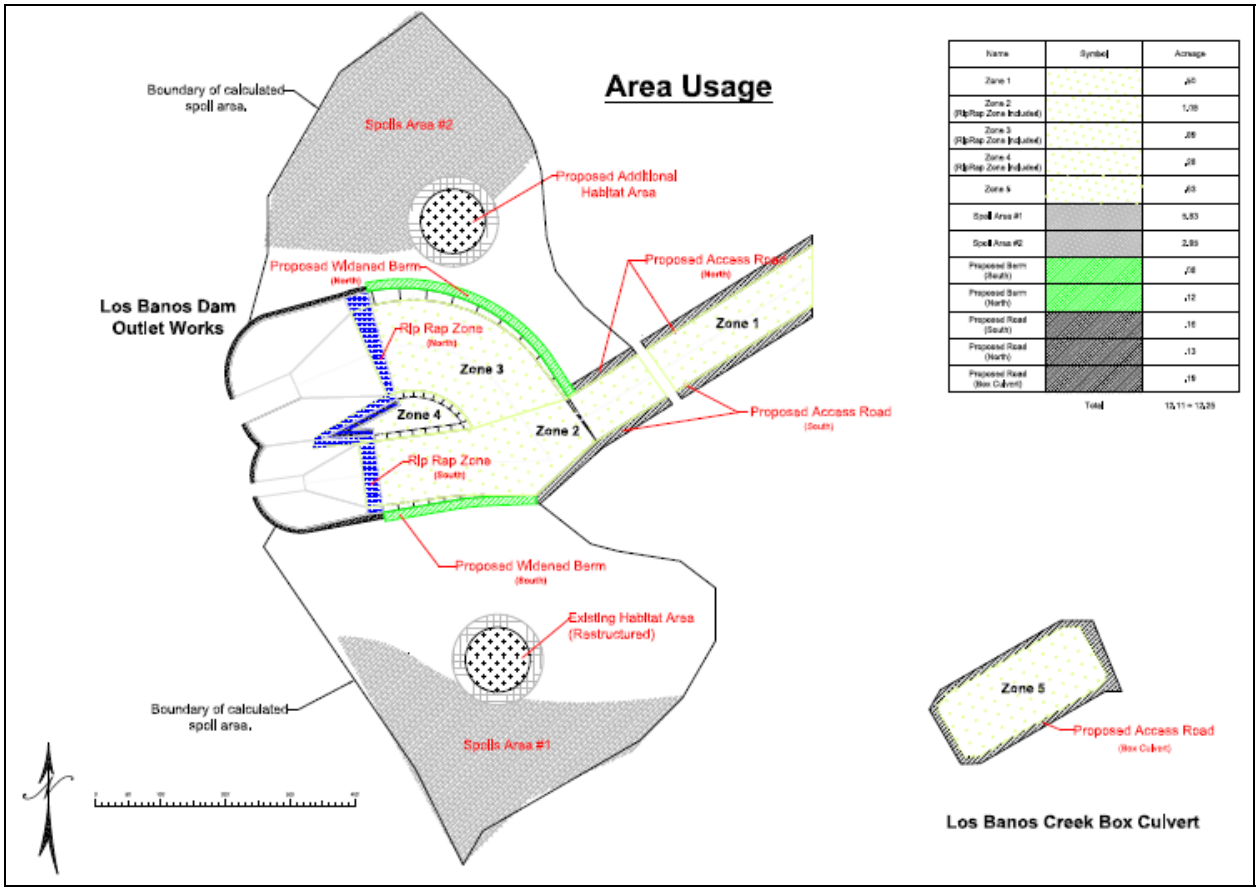

Figure 2-2. Project area usage.

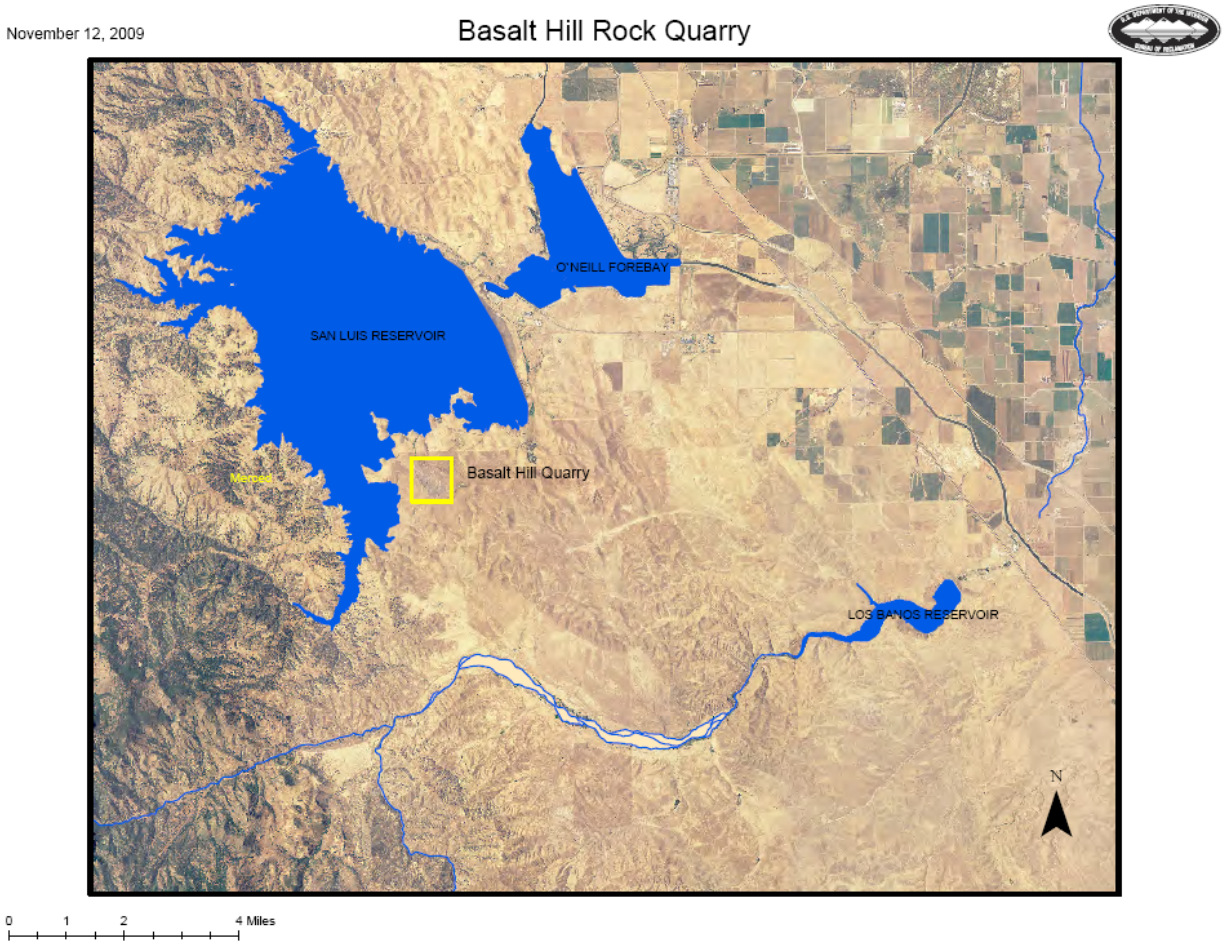

Figure 2-3. Basalt Hill quarry location.

Timing of Construction and Equipment to be Used

The maintenance program would be conducted approximately once every three to five years, depending on the rate of vegetation growth and/or sediment deposition, in order to maintain the structural and design integrity of LBDD. The overall term of this maintenance program would be 10 years. The herbicidal spray program would be conducted biannually as needed.

Normal working hours would be 0630-1700, Monday through Friday inclusive, excluding legal holidays. Construction is scheduled to begin following completion of environmental compliance.

Equipment required would include an excavator with a 60-foot reach, a loader, dump truck, a bulldozer, water truck, roller compactor/grader and a tractor mower. Equipment to be used for construction is shown in Table 2-1.

Table 2-1. Equipment to be used during construction (once every three to five years)*.

Type of Equipment	Max Number per Day	Total Op Days	Total Op Hours
Pickup Truck/Flatbed	**8**	**90**	**7200**
Backhoe	**1**	**90**	**900**
Water Truck	**1**	**90**	**900**
Bulldozer	**1**	**90**	**900**
Loader/Grader	**1**	**90**	**900**
Dump Truck	**1**	**90**	**900**
Excavator	**1**	**90**	**900**

* A 10-hour, 5 day work week is assumed; it is unlikely that the project would last 90 days. This list of equipment is estimated and could change depending on equipment availability.

Once the project activities described above are completed, vegetation within the maintained areas of the channel is expected to re-establish through vegetative reproduction or through wind-blown seed establishment within one to three years. Water flow in the channel downstream of the dam would be monitored and when the re-established vegetation and accumulated sediment begin to impede water flow in the channel, the described vegetation and sediment removal activities would be conducted again.

Staging Areas, Quarry Areas, and Access Routes

Existing service roads along with proposed additional service roads would be used to access the site. Existing and additional access roads shall be graded (see Figure 2-1). Berms originally found along the northern and southern boundary of the "horsehoe" would be widened to allow equipment to reach into the creek (Figure 2-1). Fill added to widen the existing berm shall be made of native material quarried from Basalt Hill. The Proposed Action area, including all access routes, quarry areas, and the spoil areas, would be surveyed for sensitive biological resources prior to their mowing or use. Off-road travel would be prohibited. Access to the project site would be clearly marked to avoid accidental trespass or damage to land cover. The frequency and total amount of construction traffic would be minimized to the greatest extent possible. For information on staging, see restrictions in the environmental commitments below.

Environmental Commitments

The following measures are incorporated into the Proposed Action to protect special-status species, water and air quality.

Biological resources protection measures

1. All activities would be implemented in coordination with protection, avoidance, and/or minimal impacts of existing habitats.

2. All areas where sensitive plants and animals may occur would be flagged and avoided to the greatest extent possible.

3. All activities would be completed in a timely manner.

4. All on-site personnel would be given written and oral instructions to avoid impacts and be made aware of the ecological values of the sites. A fact sheet covering this information would be distributed to all personnel who would work at the sites or occasionally visit the site or deliver materials. Biologists shall conduct an educational environmental training session (tailgate training session) for all onsite personnel. The program shall consist of a brief presentation explaining listed species concerns to include:

    a. A description and photograph of each of the sensitive species and their habitat needs.

    b. An explanation of the status of these species.

    c. A discussion of the protection measures that would be implemented to reduce impacts to the species during project construction and implementation.

5. Within two weeks prior to the onset of activities, surveys would be conducted by qualified wildlife biologists to determine whether or not sensitive terrestrial wildlife or plants occur within the project area. If any evidence of kit fox activity was found, the U.S. Fish and Wildlife Service (USFWS) Sacramento Field Office and DFG would be contacted to identify further action; the following avoidance measures would be implemented.

    a. Potential kit fox dens located within 100 feet of a disturbance area would be tracked for three consecutive nights to determine if they have any current kit fox use.

    b. A 50-foot buffer zone would be marked around any potential or atypical kit fox dens located between 50 feet and 200 feet of a disturbance using lathes and red flagging.

    c. A 100-foot buffer zone would be marked around any known kit fox den within the survey area using lathes and red flagging.

6. Surveying and monitoring activities would be designed and conducted to minimize disturbance of wildlife and their habitat.

7. Wetland vegetation within the project area would be trimmed prior to removal for better visualization of any sensitive species within the project site.

8. A DWR biological monitor would be on-site at all times during project work. The monitor would check the site before work commences for sensitive wildlife or plants, assist in avoiding impacts to wildlife and habitats, determine the least damaging options for removal or transplantation of vegetation according to established protocols, and provide technical information.

9. Project-related vehicles shall observe a 15 miles per hour speed limit in all project areas, except on county roads and State and Federal highways. To the extent possible, night-time activity should be minimized; for example, equipment repair or

hazard spill cleanup. Off-road traffic outside of designated project areas would be prohibited.

10. Excavating, filling, and other earth moving would be done in a cautious manner with a biological monitor present to allow wildlife species to escape in advance of machinery and moving materials.

11. Impacts to breeding birds would be avoided. A qualified biologist would conduct avian nest surveys within the vicinity of the project area. Surveys would be conducted during the appropriate time of the breeding season (March 1 through August 1). If any protected species are found nesting in these areas, DWR would implement the following measure: in consultation with DFG, to avoid effects on active nests, an appropriate buffer zone would be established around active nests during the breeding season. No restrictions are required for construction activities that occur during the non-breeding season (August 1 through February 28) or after the young have fledged from the nest.

12. To prevent inadvertent entrapment of kit foxes or other animals, all excavated, steep-walled holes or trenches more than two feet deep would 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 with a slope of 2:1. Before such holes or trenches are filled, they would be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures of the standardized recommendations must be followed (USFWS 1999).

13. All food-related trash items such as wrappers, cans, bottles, and food scraps would be disposed of in closed containers and removed at least once a week from the project site (USFWS 1999).

14. No firearms shall be allowed on the project site (USFWS 1999).

15. To prevent potential harassment, mortality of kit foxes or destruction of dens by dogs or cats, no pets would be permitted on project sites (USFWS 1999).

16. Work would be limited to daytime hours.

17. All fueling and maintenance of vehicles or other equipment and staging areas shall occur at least 66 feet from any water body. Reclamation and DWR shall ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, Reclamation shall ensure that DWR has prepared a plan to allow prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

18. A biologist shall ensure that the spread or introduction of invasive exotic plant species shall be avoided to the maximum extent possible by keeping the impact area to a minimum. When practicable, invasive exotic plants in the project areas shall be removed.

19. The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly demarcated, and these areas shall be outside of wetland areas.

20. To control erosion during and after project implementation, DWR shall implement best management practices, as identified by the Regional Water Quality Control Board. The creek banks would be stabilized by compacting additional soil after sediment and vegetation removal, in order to minimize the potential for erosion. Additionally, if the channel contains flowing water during project activities, a silt fence would be installed directly downstream of the project area. This would help to prevent silt accumulation downstream of the project site.

21. If the work site is to be temporarily de-watered by pumping, pump intakes shall be completely screened with wire mesh not larger than five millimeters to prevent potential amphibians (not expected to be special-status species) from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

Water quality protection measures

Certain measures aimed at protecting water quality are also relevant for the California red-legged frog. DWR would obtain a Streambed Alteration Agreement from DFG, which is expected to contain conditions that would protect water quality. The following measures are also incorporated into the Proposed Action:

1. Silt fencing, straw wattles and straw bales would be utilized to intercept, slow and retain water/sediment in storm water runoff. These protection measures would be utilized in areas of slopes greater than 2:1, or where runoff from the disturbed area would impact local creeks or channels.

2. All drainage slopes would be stabilized with straw, jute netting, or other industry accepted methods for soil stabilization.

3. To avoid runoff, only as much water as necessary would be used for dust control.

4. Spills and leaks would be cleaned up using "dry" methods (with absorbent materials/rags), or contaminated soil would be dug up and removed.

5. Stockpiles and other construction materials would be covered with plastic tarps when material sits for more than seven days. Protection from rainfall and prevention of runoff would include temporary use of berms and plastic sheets.

Air quality protection measures

To decrease the Visible Dust Emissions (VDE) to below 20 percent opacity during periods when soil is being disturbed by equipment or by wind, and to reduce greenhouse gas emissions (GHG), DWR would implement the following measures:

1. Maintain all construction equipment according to manufacturer's specifications.

2. Maximize the use of diesel construction equipment that meets California Air Resources Board 1996 or newer certification standard for off-road heavy-duty diesel engines.

3. Maximize use of electric equipment.

4. Maximize use of gasoline-powered equipment in lieu of diesel-powered equipment.

5. Maximize use of alternatively fueled construction equipment on site, such as compressed natural gas, liquefied natural gas, propane, or biodiesel.

6. Use equipment that has Caterpillar pre-chamber diesel engines.

7. A water truck shall be on-site at all times. Water shall be applied to disturbed areas a minimum of two times per day or more as necessary. Water may be applied by means of truck(s), hoses and/or sprinklers as needed, prior to any land clearing or earth movement, to minimize dust emissions. All visibly dry and disturbed soil surface areas of operation shall be watered to minimize dust emissions. Unpaved roads may be graveled in lieu of watering to reduce dust emissions.

8. Haul roads shall be sprayed down at the end of the work shift to form a thin crust. This application of water shall be in addition to the minimum rate of application.

9. Haul vehicles transporting soil into or out of the project area shall be covered.

10. On-site vehicles shall be limited to 15 miles per hour. This would minimize dust emissions on unpaved roads and all project entry points.

11. Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours.

12. Existing roads and streets adjacent to the project shall be cleaned at least once per day unless conditions warrant a greater frequency.

13. Construction workers shall park in designated parking areas(s) to reduce dust emissions.

14. Soil pile surfaces shall be moistened if dust is being emitted from the pile(s). Adequately secured tarps, plastic or other material may be required when watering is insufficient or wind speeds exceed 25 miles per hour to further reduce dust emissions.

15. Vegetation would be allowed to grow on the soil surface.

16. Soil stabilization would also be required after normal working hours and on weekends and holidays.

Equipment that would be used during construction is listed in Table 2-1. In order to reduce air quality impacts, the required state and Federal emission quality control technologies would be implemented; all equipment would have properly operating mufflers and exhaust systems.

2.3 Alternative Considered but Eliminated from Detailed Analysis

One alternative considered but eliminated was the building of a bridge over the creek where Canyon Road crosses it. It is noted that this alternative would result in a lesser magnitude of impacts on biological resources, water quality, and waters of the U.S., because of the smaller area of the creek/riparian vegetation that would be impacted, and the smaller staging/spoils area that would likely be required. However, the alternative would only partially meet the purpose and need. It would, at least as long as the dam does not fail, allow for improved access to the recreation area. However, this alternative would not meet the need to improve water flow downstream from the dam, improve DWR's ability to monitor drainage from the toe drain, and thereby detect problems with the dam, and protect downstream facilities including the San Luis Canal and the City of Los Banos. This alternative would only focus on the crossing, and so it was eliminated from further analysis.

Section 3 Affected Environment and Environmental Consequences

3.1 Aesthetics

3.1.1 Affected Environment

The proposed vegetation and sediment removal activities would be conducted on and near an existing flood control facility located approximately seven miles from the nearest community. The land surrounding the project area is dedicated to privately owned rangeland and California State Park Facilities. Basalt Hill is not generally accessed nor is it easily viewed by recreational users at San Luis Reservoir.

3.1.2 Environmental Consequences

No Action

Under the No Action Alternative, no change in visual resources from the current conditions is expected to occur.

Proposed Action

Under the Proposed Action, there would be temporary access and construction in and immediately adjacent to the creek channel up to three times over the next 10 years, as well as activities conducted biannually under an herbicidal spray program. All work would be confined to the creek channel just below the dam and the concrete structures.

No construction work would occur in the recreational areas themselves (the reservoir and camping/picnicking areas). None of the proposed work would alter any scenic vistas, damage scenic resources, degrade the visual characteristic of the site, or adversely affect day or nighttime views. The project would not create light or glare. As a result, this resource would not be impacted.

3.2 Air Quality/Climate Change

3.2.1 Affected Environment

The federal Clean Air Act and the California Clean Air Act (CCAA) mandate the control and reduction of certain air pollutants. Under these Acts, the United States Environmental Protection Agency and the California Air Resources Board (CARB) have established ambient air quality standards for certain "criteria" pollutants. These pollutants are carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen oxides (NO_x), lead, particulate matter less than 10 microns in diameter (PM_{10}), and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). The ambient air quality standards are designed to protect public health and welfare.

The State Standard for PM_{10} is 50 micrograms per cubic meter ($\mu g/m^{3)}$, based on a 24-hour average (geometric mean). The State Standard for $PM_{2.5}$ is 12 $\mu g/m^3$, based on an annual average (geometric mean), and the Federal Standard is 35 $\mu g/m^3$ (hourly geometric mean) and 15 $\mu g/m^3$ (annual geometric mean). For 8-hour ozone, the State Standard is 0.07 parts per million (ppm)

or 137 μg/m^3, and the Federal Standard is 0.075 ppm or 147 μg/m^3. The State Standard for hourly ozone is 0.09 ppm or 180 μg/m^3.

The San Joaquin Valley Unified Air Pollution District has a number of regulations and requirements to reduce air quality impacts. Regulation VIII, Fugitive PM_{10} Prohibitions, of the District's Rules and Regulations apply to many activities that generate fugitive dust, particularly construction sites. Visible Dust Emissions (VDE) may not exceed 20 percent opacity during periods when soil is being disturbed by equipment or by wind at any time. Visible Dust Emissions opacity of 20 percent means dust that would obstruct an observer's view of an object by 20 percent. For unpaved roads and unpaved traffic areas, a Fugitive PM_{10} Management Plan may be implemented as a compliance alternative to the VDE standard and the requirement to maintain a stabilized unpaved road surface, per Section 7.0 of Rule 8011 (i.e. meeting the 20 percent VDE standard would meet the standards for PM_{10}).

The CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the CCAA. The CARB released the *Preliminary Draft Staff Proposal: Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act.* The proposal recommends adhering to interim performance standards for project types and emission sources including construction, energy, water use, waste, transportation, and total mass GHG emissions (California Air Resources Board 2008). In December 2008, CARB proposed a significance[1] threshold of 7,000 metric tons of CO_2 equivalent emissions per year for operational emissions (excluding transportation).

The project area itself is relatively small and not subject to a high level of human-generated air-quality degradation. The San Joaquin Valley is listed as a Federal serious non-attainment area (Environmental Protection Agency 2009) for 8-hour O_3 and $PM_{2.5}$, and a State non-attainment area for hourly O_3, 8-hour O_3, and PM_{10} particle sizes (California Air Resources Board 2009).

3.2.2 Environmental Consequences

No Action

Under the No Action Alternative, the only air quality impacts directly generated at the project site would be from periodic site access of a few vehicles along the unpaved access road, related to monitoring activities by DWR and road maintenance. However, pollutants generated elsewhere would also occur in the air at the site, due to the fact that wind mixes air and carries pollutants across distances.

Proposed Action

Project activities may potentially result in localized, short-term emissions from stationary, mobile, and area sources. Emissions may include hydrocarbons, NO_x, CO, and particulate matter (PM_{10} and $PM_{2.5}$). Hyrdocarbons, NO_x, and CO may be emitted in equipment exhaust. The pollutant of greatest concern for the Proposed Action is fine particulate matter (PM_{10}), primarily emitted as fugitive dust, although motor vehicles and equipment used during the proposed work may also contribute to an increased level, as PM_{10} can be emitted directly from combustion processes.

[1] In this usage, "significance" refers to analysis under the California Environmental Quality Act. The Department of Water Resources conducted an analysis of greenhouse gas emissions for this project.

According to DWR's analysis for this proposed project under the California Environmental Quality Act, GHG emissions would be 653.9 metric tons CO_2 equivalent emissions per year of maintenance activities. This is well below the threshold of 7,000 metric tons of CO_2 equivalent emissions proposed by CARB. Therefore, any contribution to GHG emissions would be negligible with regard to impacts on climate change.

The air quality protection measures in the Proposed Action description would reduce VDE to below 20 percent and would reduce vehicle- and equipment-generated emissions that would occur as a result of the Proposed Action. The incorporated air quality protection measures would reduce the cumulative contribution to air quality impacts.

3.3 Biological Resources

3.3.1 Affected Environment

General vegetation and wildlife surveys have been conducted at LBDD in the past. Biological surveys have been conducted for California red-legged frog (*Rana aurora*) and have been consistently negative for the occurrence of this species. The most recent surveys were for special-status vertebrate species, and were conducted in 2006 by biologists from the Museum of Wildlife and Fish Biology at the University of California, Davis (Engilis et al. 2007). Shauna McDonald of Reclamation inspected Basalt Hill in the summer of 2008 for biological resources.

Habitat in Project Area

Project activities would be located downstream of the LBDD within the spillway and outflow channel and along 750 feet of the Los Banos Creek channel (Figures 2.1 and 2.2). The channel contains Fremont's cottonwood (*Populus fremontii*), Gooding's black willow (*Salix gooddingii*), velvet mesquite (*Prosopis velutina*), mulefat (*Baccharis salicifolia*), tree tobacco (*Nicotiana glauca*), cattails (*Typha* sp.), sedges (*Scirpus americanus*) and some ornamentals. Other species included are peppergrass (*Lepidium* sp.), Russian thistle (*Salsola tragus*), alkali heath (*Frankenia salina*), Curly dock (*Rumex crispus*), gumplant (*Grindelia camporum*), horehound (*Marrubium vulgare*), and Bermuda grass (*Cynodon dactylon*). The upland habitat in the area is dominated by filaree (*Erodium* sp.), vinegar weed (*Trichostema lanceolatum*), wild oats (*Avena fatua*), doveweed (*Eremocarpus setigerus*), jimsonweed (*Datura stramonium*) prickly lettuce (*Lactuca serriola*), ripgut brome (*Bromus diandrus*), black mustard (*Brassica nigra*), fiddleneck (*Amsinckia* sp.) and a few scattered milk vetch plants (*Astralagus* sp.).

Basalt Hill has very little vegetation. It is a previously used rock quarry and the ground is very bare and disturbed.

There is no proposed or designated critical habitat in the proposed action area, including the recently proposed increase in California red-legged frog critical habitat.

Special-Status Species

Special-status species are plants and animals that are legally protected under the State and Federal Endangered Species Acts or other statutes or regulations, and species that are considered sufficiently rare and/or vulnerable by the scientific community to qualify for such listing. A species list was obtained from the USFWS website (http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm) for the Ortigalita Peak NW,

Volta, Los Banos and San Luis Dam 7 ½ minute USGS Quadrangles (document number 100609023911). The species list was most recently downloaded on June 9, 2010, which was last updated on April 29, 2010 (see appendix). The California Natural Diversity Database (CNDDB) has been continually consulted for known occurrences of special status species in the project area, with each updated version of the CNDDB being rechecked. A site visit to the LBDD was made by Reclamation staff (Shauna McDonald) on November 21, 2008 and by USFWS staff (Brian Peterson) on September 14, 2005.

Table 3-1. Special status species list for Los Banos Detention Dam.

Common Name	Scientific Name	Status*
Plants		
heartscale	*Atriplex cordulata*	CNPS 1B.2
Lost Hills crownscale	*Atriplex vallicola*	CNPS 1B.2
round-leaved filaree	*Erodium macrophyllum*	CNPS 1B.1
hispid bird's beak	*Cordylanthus mollis* ssp. *mollis*	CNPS 1B.1
recurved larkspur	*Delphinium recurvatum*	CNPS 1B.2
Plant Communities		
cismontane alkali marsh		G1S1.1
sycamore alluvial woodland		G1S1.1
valley sink scrub		G1S1.1
Invertebrates		
longhorn fairy shrimp	*Branchinecta longiantenna*	FE
vernal pool fairy shrimp	*Branchinecta lynchi*	FT
valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT
vernal pool tadpole shrimp	*Lepidurus packardi*	FE
Fish		
delta smelt	*Hypomesus transpacificus*	FT; SCE
Central Valley steelhead	*Oncorhynchus mykiss*	FT
Amphibians		
California tiger salamander	*Ambystoma californiense*	FT; CSC
California red-legged frog	*Rana aurora*	FT; CSC
foothill yellow-legged frog	*Rana boylii*	CSC
western spadefoot toad	*Spea* (*Scaphiopus*) *hammondii*	CSC
Reptiles		
western pond turtle**	*Clemmys marmorata*	CSC
blunt-nosed leopard lizard	*Gambelia sila*	FE; SE
San Joaquin whipsnake**	*Masticophis flagellum ruddocki*	CSC
giant garter snake	*Thamnophis gigas*	FT; ST
Birds		
Tricolored Blackbird**	*Agelaius tricolor* (nesting colonies)	CSC
Golden Eagle**	*Aquila chrysaetos*	SFP; CSC
Western Burrowing Owl**	*Athene cunicularia hypugea*	CSC
Swainson's Hawk**	*Buteo swainsoni*	ST
Northern Harrier**	*Circus cyaneus*	CSC
White-tailed Kite**	*Elanus leucurus*	SFP
California Horned Lark**	*Eremophila alpestris actia*	WL
Prairie Falcon**	*Falco mexicanus* (nesting)	CSC
Mammals		
giant kangaroo rat	*Dipodomys ingens*	FE; SE
Fresno kangaroo rat	*Dipodomys nitratoides exilis*	FE; SE
western mastiff bat	*Eumops perotis californicus*	CSC
San Joaquin pocket mouse	*Perognathus inornatus inornatus*	G4T2T3

San Joaquin kit fox	*Vulpes macrotis mutica*	FE; ST

*FE: Federal Endangered; FT: Federal Threatened; SE: State Endangered; SCE: State Candidate Endangered; ST: State Threatened; SFP: State Fully Protected; CSC: California Species of Concern; WL: watch list of Audubon Society's birds in decline; CNPS 1B.1: seriously endangered in CA; CNPS 1B.2: fairly endangered in CA; G1S1.1: very high risk of extinction; G4T2T3: apparently secure, but factors exist to cause some concern.

**Known to occur in the Project vicinity, but see main text for records in the proposed action area itself.

Special-Status Plants

Special-status plants with the potential to occur at LBDD and Basalt Hill are listed in Table 3.1. None of these plant species or plant communities have been identified within the project area itself, or within the vicinity. The immediate project area has been disturbed by ongoing maintenance activities and by the flow of the creek.

Special-Status Wildlife

According to the species list generated from the USFWS and CNDDB for the project area, several species could potentially occur in the project vicinity. The California red-legged frog, a Federally threatened species, has not been observed in the project area; surveys in 2002, 2004, and 2006 have had negative results for both adult frogs and egg masses. The CNDDB contains previous records of foothill yellow-legged frogs upstream from Los Banos Reservoir; however, surveys at LBDD have been negative for this species. There is no otherwise suitable aquatic habitat that does not contain fish and bullfrogs.

Los Banos Creek is an intermittent stream that does not provide or connect to habitat for the Central Valley steelhead or delta smelt. The CNDDB did not include any known populations of California tiger salamander. There are no vernal pools or seasonal wetlands located within the project area that would support breeding populations of tadpole shrimp, fairy shrimp, western spadefoot toads or the California tiger salamander. Work would be restricted to areas along the creek only. Valley elderberry longhorn beetle habitat does not exist (no elderberry shrubs were found during any of the past surveys).

Habitat does exist for the San Joaquin whipsnake and this species has been observed in the grassland hills within the project area. Western pond turtles are known to occur upstream of the LBDD (one was observed in the spring of 2006 and a carapace was also found), but have not been observed in the project area. The giant garter snake has never been detected in the project area during past surveys, and normally only occurs on the valley floor. The upland areas are too thick with tall grass to provide blunt-nosed leopard lizard habitat, and previous surveys have never detected the species.

Western Burrowing Owls have not been observed at the LBDD project area. The Northern Harrier, Ferruginous Hawk, Tricolored Blackbird, Swainson's Hawk, Golden Eagle, California Horned Lark, and Prairie Falcon may use the project area as foraging habitat but no breeding habitat exists on or in proximity to the project area. The White-tailed Kite presumably may use the area for foraging.

The surrounding area is suitable habitat for San Joaquin kit fox. No dens have been observed in the project area; all work would be restricted to the creek channel and immediate area. The San Joaquin pocket mouse has not been observed on the site. There are no known records of any other kangaroo rats in the area besides the non-special-status Heermann's kangaroo rat

(*Dipodomys heermanni*); surveys in 2006 did not detect any giant kangaroo rats. The project area is outside of the range of the Fresno kangaroo rat, and no San Joaquin kangaroo rats have been trapped. It is possible that western mastiff bats may forage in the area.

Basalt Hill is a very rocky and disturbed area that provides little wildlife value. It's an upland area, but is not suitable for special-status upland species, such as kit foxes or burrowing owls.

3.3.2 Environmental Consequences

No Action

Under the No Action Alternative, DWR would continue to access the site for monitoring purposes, and would conduct road maintenance, but this would result in very little disturbance of special-status species. If the dam failed and a flood occurred, downstream habitat for species such as the San Joaquin kit fox (primarily occasional foraging habitat) could be adversely impacted.

Proposed Action

Under the Proposed Action, certain impacts to special-status species and their habitats would occur two to three times during a 10-year period, as well as biannual activities conducted under an herbicidal spray program. These impacts would be minimized as much as possible by the incorporation of appropriate conservation measures, described under the Environmental Commitments section of the Proposed Action.

The species discussed in the previous section that do not occur in the project area would not be affected. Several years' worth of surveys resulted in the detection of bullfrogs, which decrease the suitability of the area for the California red-legged frog, and no red-legged frogs have been found. The reservoir itself was previously stocked with fish by DFG (prior to a lawsuit by the Center for Biological Diversity, and a court order), which also reduces the suitability for the red-legged frog. For these reasons, the Proposed Action is not expected to affect the California red-legged frog.

Prior to the commencement of any work, the project area would be surveyed by a qualified biologist. The upland areas would not be disturbed by this project. All small mammal burrows would be avoided during the Proposed Action. Potential burrowing owl foraging and nesting habitat would not be disturbed by this project. Prior to the commencement of work, surveys would be conducted for this species in suitable habitat in the project area and within a 500-foot buffer. If burrowing owls are found in these areas, DFG would be contacted immediately to discuss proper measures to minimize effects on burrowing owls. The project would not have more than a minor adverse impact on this species. Minor impacts may occur on other raptors, due to activities in their foraging habitat, but impacts to any nesting birds would be avoided by the implementation of appropriate protective measures. Biological monitors would be on-site during construction to capture and move any displaced San Joaquin whipsnakes if necessary. With these measures, the San Joaquin whipsnake would not be subject to more than a minor adverse impact. The San Joaquin kit fox is not expected to occur in the project area, but a preconstruction survey and avoidance measures would avoid effects in the event that a kit fox moves into the area during the project; upland impacts are minor and the only loss of land would be from spoil deposition and road construction, which occurs immediately adjacent to the creek and is unlikely to be used by kit foxes. The western mastiff bat would not be impacted, as the work would not occur during dusk and dawn, when the species would use the area for foraging.

Some cumulative impacts may occur on raptors and whipsnakes in the proposed action area, due to recreational use of the State Parks area, and routine ranching activities in surrounding lands. However, these would be minor impacts that would rarely result in death or injury of individuals, and would not cause more habitat loss than what previously occurred as a result of the construction of the reservoir.

The increased size of the "habitat area" may provide some additional habitat for some common wildlife species, such as the western fence lizard (*Sceloperus occidentalis*), or the desert cottontail (*Sylvilagus audubonii*).

3.4 Cultural Resources

3.4.1 Affected Environment

Cultural resources is a term used to describe "archaeological sites" depicting evidence of past human use of the landscape, and the "built environment," which is represented in structures such as dams, roadways, and buildings. Cultural resources may also be Traditional Cultural Properties or sites of religious and cultural significance which are important to Native American individuals and communities.

The NHPA of 1966 is the primary Federal legislation which outlines the Federal government's responsibility to cultural resources. More specifically, Section 106 of the NHPA and its implementing regulations located at 36 CFR Part 800, outline the Federal government's responsibility in identifying and evaluating the historic significance of cultural resources. Other applicable Federal cultural resources laws and regulations that could apply include, but are not limited to, the Native American Graves Protections and Repatriation Act, and the Archaeological Resources Protection Act.

Section 106 of the NHPA requires the Federal government to take into account the effects of an undertaking on cultural resources listed on or eligible for listing on the National Register of Historic Places (National Register) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties. Historic properties may include prehistoric and historic districts, sites, buildings, structures, or objects.

As part of the Section 106 process, once an undertaking is initiated, the Federal agency must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action that has the potential to affect historic properties, the Federal agency must; 1) identify the area of potential effects (APE), 2) determine if historic properties are present within the APE, 3) determine the effect that the undertaking would have on historic properties, and 4) consult with the SHPO, to seek concurrence on the Federal agency's findings. In addition, the Federal agency is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and to consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties. If the undertaking would result in adverse effects to historic properties, these adverse effects must be resolved in consultation with the SHPO and other parties identified during the Section 106 process before the undertaking can proceed to implementation.

3.4.2 Environmental Consequences

No Action

Under the No Action Alternative, DWR would continue to access the site for monitoring purposes, and would conduct road maintenance. There would be no impacts to cultural resources under the No Action Alternative since conditions would remain the same as they currently are

Proposed Action

Under the Proposed Action Alternative, all ground disturbing activity and spoils deposition will occur within areas previously disturbed by construction of the detention dam and modification of the creek channel during the dam's construction in 1966. The proposed undertaking was determined to be the type of activity that does not have the potential to affect historic properties pursuant to the regulations at 36 CFR Part 800.3(a)(1). The likelihood of intact archaeological deposits existing within the project footprint is highly unlikely.

3.5 Hydrology and Water Quality

3.5.1 Affected Environment

As explained previously in the background section, Los Banos Creek, an intermittent creek, begins in the Diablo Range in San Benito County. Los Banos Creek is the first large creek north of Ortigalita Creek, draining into the San Joaquin Valley in Section 7, Township 11 South, Range 10 East, about four miles north of Ortigalita Creek. Los Banos Creek is hydrologically connected to Mud Slough, which empties into the San Joaquin River. Los Banos Creek drains about 160 square miles of the Diablo Range. It then flows into western Merced County where it is dammed at LBDD, and passes under the San Luis Canal through a six-barrel culvert.

In the project area at LBDD, the overall flow or ponding of water remains within a clearly defined creek channel. However, in the southwestern area there are topographic inconsistencies, intermittent releases of water from a toe drain, as well as occasional or seasonal flooding. There is also obvious seasonal flooding and ponding of other areas tied to, but just outside of, the project site. Basalt Hill is an upland area.

3.5.2 Environmental Consequences

No Action

Under the No Action Alternative, Reclamation and DWR would not conduct sediment and vegetation removal. Flow in the channel would continue to decrease as a result of continued sediment accumulation and vegetation growth. The LBDD could overtop or otherwise fail, which would cause scouring of the channel downstream of the dam and likely result in at least temporary water quality degradation, as accumulated sediment would be suddenly washed downstream. The San Luis Canal, City of Los Banos, and downstream farmland and urban development could be flooded. However, under the No Action Alternative, minor impacts on water quality associated with vegetation and sediment management would not occur.

Proposed Action

Under the Proposed Action, Reclamation and DWR would conduct sediment and vegetation removal activities up to three times over the next 10 years, as well as apply herbicides biannually under an herbicidal spray program. Flow in the creek would improve and the San Luis Canal

would be better-protected from flooding. The Proposed Action would provide an overall benefit to water resources.

The Proposed Action entails removing vegetation and accumulated sediment from the channel. The creek in the project area is usually always wet, so work cannot be restricted to dry periods. During project activities, DWR would comply with all conditions of the Streambed Alteration Agreement, which is likely to include measures such as stabilizing drainage slopes to prevent erosion into the creek, covering any stockpiled soil to prevent dust and siltation into the creek, and utilizing drip pans or absorbent material to catch drips from equipment while parked. Any equipment that is leaking fluid shall be fixed immediately or removed from the jobsite. The Proposed Action is expected to require a permit pursuant to section 404 of the CWA, and so a section 401 water quality certification would be required.

The Proposed Action would not deplete groundwater supplies, or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The Proposed Action would not alter the existing drainage pattern of the site.

The Proposed Action is to conduct maintenance on an existing flood control facility and would not result in a substantial increase in the rate or amount of surface runoff in a manner in which would result in flooding on or off-site. The project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

3.6 Recreational Resources

3.6.1 Affected Environment

Los Banos Creek Reservoir is a popular area for fishing and boating. DFG previously stocked the reservoir with trout. Bass fishing derbies are often held there, and crappie and bluegill are also caught. Twenty undeveloped camping/picnicking sites are located along the shore of Los Banos Creek Reservoir. Each has a shade ramada, table, and stove. There is drinking water and chemical toilets. Every spring, a five-mile hike (Path of the Padres) is held from the west end of the reservoir, through the grassy hills and into riparian habitat. The campground is subject to winter and/or road closures because of water releases from the reservoir (State Parks 2009). As explained earlier, a recent test release by DWR caused water to back up onto the access road and two visitors had their vehicle flooded out. Basalt Hill is only accessed by DWR and Reclamation personnel.

3.6.2 Environmental Consequences

No Action

Under the No Action Alternative, recreational resources would be impacted in the short term by problems such as the loss of access that has been occurring because of ponding of water released from the dam. In the long term, if the dam failed, this would greatly impact almost all recreational uses.

Proposed Action

There would be temporary changes to public access to the State Parks-managed land at the reservoir, so the Proposed Action could temporarily impact recreation. To reduce this impact, DWR staff would be onsite to allow vehicles to travel on the road safely by using signs that warn visitors about the work and by having flagmen onsite at all times during maintenance activities. No cumulative impacts on recreational resources have been identified by Reclamation or DWR.

3.7 Wetlands and other Waters

3.7.1 Affected Environment

As explained earlier, Los Banos Creek is an intermittent creek flowing typically during the winter which supports hydrophytic vegetation (e.g. cattails). The project area is likely to be under the Corps' jurisdiction, pursuant to section 404 of the CWA. Los Banos Creek connects to Mud Slough, about three miles upstream of Mud Slough's confluence with the San Joaquin River (a navigable river). A preliminary wetland delineation was performed by DWR (see appendix). Basalt Hill is entirely an upland area.

3.7.2 Environmental Consequences

No Action

Under the No Action Alternative, the streambed of Los Banos Creek would not be intentionally filled (although sediment would continue to accumulate over the next 10 years).

Proposed Action

The Proposed Action is expected to impact a portion of the Los Banos Creek streambed. Approximately 1.09 acres may be permanently impacted, due to road/berm construction (0.84 acres) and riprap placement (0.25 acres). Historically, there was likely a loss of wetlands/waters when the LBDD was constructed. However, impacts as a result of the project would be restricted to the smallest area possible. Although the road and berm work would exceed the impacts caused by the original construction of the dam, this additional work is needed to conduct the channel clearance activities. The project is water-dependent, as the project is needed to improve downstream flow in Los Banos Creek. A permit is expected to be required, pursuant to section 404 of the CWA, and would be issued to Reclamation. Riprap work and berm/road construction would result in a discharge of fill material to waters of the U.S. The Proposed Action would utilize an excavator to remove vegetation and sediment, which would not push material around in the creek bed when it is operated. Due to this method, the removal of the vegetation and sediment itself is not expected to result in a discharge of dredged or fill material into waters of the U.S.

Section 4 Consultation and Coordination

4.1 Clean Air Act (42 USC §7401 et seq.)

The Clean Air Act is a comprehensive Federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes the Environmental Protection Agency to establish National Ambient Air Quality Standards to protect public health and public welfare and to regulate emissions of hazardous air pollutants.

The Proposed Action is consistent with the Environmental Protection Agency's General Conformity Rule under the Clean Air Act. The project would incorporate measures to protect air quality, to State and Federal Standards. The project would not generate greater than 20 percent opacity for PM_{10}. GHG emissions would be negligible.

4.2 Clean Water Act (33 USC §1251 et seq.)

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Activities in waters of the U. S. regulated under this program include fill for development, water resource projects, infrastructure development and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into waters of the U. S., unless the activity is exempt from section 404 regulation. A wetland delineation was prepared, and the creek is likely under the Corps' jurisdiction. Reclamation would submit the delineation and a permit application to the Corps.

Section 401 of the CWA establishes a program to allow States and Tribes to review and approve, condition, or deny all Federal permits or licenses that might result in a discharge to State or Tribal waters, including wetlands. The Central Valley Regional Water Quality Control Board (CVRWQCB) administers the 401 program for the Central Valley region of California. As the Proposed Action is expected to be regulated by the Corps, a 401 water quality certification would be required. Reclamation would submit a Section 401 Water Quality Certification application form to the CVRWQCB.

4.3 Endangered Species Act (16 USC §1531 et seq.)

Section 7 of the Endangered Species Act requires Federal agencies, in consultation with the Secretary of the Interior/Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

Reclamation has determined that no Federally listed or proposed species or critical habitat would be affected by the Proposed Action. Therefore, no consultation with the USFWS or the National Marine Fisheries Service is required. The USFWS will be sent a copy of this document when it is released for public review.

4.4 Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority and Low-Income Populations

Executive Order 12898 established the priority of analyzing environmental justice for any action that could cause disproportionately high and adverse human health or environmental effects to a minority and/or disadvantaged populations. The Proposed Action is strictly a maintenance project and is not located in an area with minority or low-income populations, and therefore it would not affect such populations.

4.5 Executive Order 11988 – Floodplain Management and Executive Order 11990 – Protection of Wetlands

Executive Order 11988 requires Federal agencies to prepare floodplain assessments for actions located within or affecting flood plains. The project would occur at least partially in a floodplain. However, the Proposed Action would protect life and property from downstream flooding, rather than increase the risk.

Executive Order 11990 requires Federal agencies to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for (1) acquiring, managing, and disposing of Federal lands and facilities; and (2) providing Federally undertaken, financed, or assisted construction and improvements; and (3) conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities. The order does not apply to the issuance by Federal agencies of permits, licenses, or allocations to private parties for activities involving wetlands on non-Federal property. This Proposed Action would occur on Federal property, and so the order applies. The Proposed Action is a water-dependent project and no practicable alternative exists. Conservation measures would reduce the potential for impacts on the biological resources and water quality of Los Banos Creek, thereby minimizing any degradation of wetlands.

4.6 Fish and Wildlife Coordination Act (16 USC §661 et seq.)

The Fish and Wildlife Coordination Act requires that Federal agencies consult with fish and wildlife agencies (Federal and State) whenever a body of water is proposed to be impounded, diverted, controlled, or otherwise modified, either by the Federal agency, or by a public or private agency under a Federal permit or license. This project is a maintenance project that would only remove accumulated sediment and vegetation, and would not involve any new construction (i.e. it is not a water development project). The road and berm work is only that which is needed to conduct necessary maintenance work. Therefore the Fish and Wildlife Coordination Act does not apply.

4.7 Indian Trust Assets

There are no tribes possessing legal property interests held in trust by the United States in the areas involved with this action. The nearest ITA is Chicken Ranch Rancheria, approximately 72 miles northeast of the project location. As there are no ITAs in the project area, Indian trust assets would not be affected by this action.

4.8 Migratory Bird Treaty Act (16 USC §703 et seq.)

The Migratory Bird Treaty Act implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior (Secretary) may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.

The Proposed Action has a low probability of affecting migratory birds, and conservation measures have been incorporated into the project description to protect them from adverse effects; these measures would ensure compliance with the Migratory Bird Treaty Act.

4.9 National Historic Preservation Act (16 USC §470 et seq.)

The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation which outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 CFR Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action has the potential to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

The proposed undertaking was determined to be the type of activity that does not have the potential to affect historic properties pursuant to the regulations at 36 CFR Part 800.3(a)(1). The likelihood of intact archaeological deposits existing within the project footprint is highly unlikely.

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Section 6 References

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