

RECLAMATION

Managing Water in the West

Final Environmental Assessment

Antioch Community Park Soccer Field Improvements

EA 12-031



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

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Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Table of Contents

Section 1	Introduction.....	5
1.1	Background.....	5
1.2	Purpose and Need.....	5
1.3	Scope.....	5
1.4	Resources Eliminated from Further Analysis.....	6
1.5	Resources Requiring Further Analysis.....	7
Section 2	Alternatives Including the Proposed Action.....	9
2.1	No Action Alternative.....	9
2.2	Proposed Action.....	9
2.3	Environmental Commitments.....	10
Section 3	Affected Environment and Environmental Consequences.....	15
3.1	Biological Resources.....	15
3.1.1	Affected Environment.....	15
3.1.1.1	Special-Status Plants.....	17
3.1.1.2	Special-Status Wildlife.....	17
3.2	Environmental Consequences.....	20
3.3	Cultural Resources.....	20
3.3.1	Affected Environment.....	20
3.3.2	Environmental Consequences.....	21
3.4	Air Quality.....	21
3.4.1	Affected Environment.....	22
3.4.2	Environmental Consequences.....	22
3.5	Global Climate.....	24
3.5.1	Affected Environment.....	25
3.5.2	Environmental Consequences.....	25
Section 4	Consultation and Coordination.....	27
4.1	Public Review Period.....	27
4.2	Endangered Species Act (16 U.S.C. § 1531 et seq.).....	27
4.3	National Historic Preservation Act (16 U.S.C. § 470 et seq.).....	27
4.4	Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.).....	27
4.5	Executive Order 11988 – Floodplain Management and Executive Order 11990 – Protection of Wetlands.....	28
4.6	Clean Water Act (33 U.S.C. § 1251 et seq.).....	28
Section 5	List of Preparers and Reviewers.....	29
Section 6	List of Acronyms and Abbreviations.....	29
Section 7	References.....	31

List of Tables and Figures

Figure 1-1 Contra Loma Regional Park, Community Park and Proposed Action Area 8
Table 2-1 Environmental Commitments 10
Table 3-1 Federally protected Species with Potential to be Present 16
Table 3-2 General Conformity de minimis Thresholds 23
Table 3-3 Estimated Operational Hours 23
Table 3-3 Greenhouse Gas Emissions 25

Appendices

Appendix A Storm Water Pollution Prevention Plan Separate Attachment
Appendix B Storm Water Control Plan Separate Attachment

Section 1 Introduction

1.1 Background

The East Bay Regional Park District (EBRPD) provides and manages the regional parks in Contra Costa and Alameda counties and is the primary provider of regional park facilities and activities in both counties. EBRPD's regional park system consists of over 112,000 acres including 65 parks and over 1,200 miles of trails for hiking, biking, horseback riding and nature study (<http://www.ebparks.org/>). EBRPD has a Management Agreement with the Bureau of Reclamation (Reclamation) for the operation and maintenance of the Contra Loma Regional Park at Contra Loma Reservoir (a Reclamation facility).

The City of Antioch owns and administers 28 parks, which vary in size and amenities. The EBRPD and the City of Antioch have entered into an agreement where the City of Antioch has a license to utilize 47.9 acres of the Contra Loma Regional Park as a community park and sports complex known as the Antioch Community Park. The City of Antioch desires to improve the soccer field portion of the Antioch Community Park.

1.2 Purpose and Need

There is a need to improve the two soccer fields and surrounding area at Antioch Community Park. The soccer fields in their current condition do not drain runoff adequately and do not have adequate security features including lighting, fencing and cameras. Erosion from the surrounding hillsides caused by heavy rainfall has been problematic in the past. In addition, access paths are needed to allow access to the fields from the parking lot and the existing park walkway system and a storage building is needed to support activities.

The purpose of the proposed project is to provide greater recreational opportunities to the public by improving conditions of existing soccer fields so that the fields are useable year round and to improve security, safety and access. The proposed project would also reduce water use and maintenance costs.

1.3 Scope

This Environmental Assessment (EA) and decision document, Finding of No Significant (FONSI) analyzes the direct, indirect and cumulative effects to the natural and built environment from the Proposed Action and No-Action Alternative. The geographical extent of the Proposed Action includes the existing soccer fields and surrounding area as well as the adjacent hillsides, access paths and construction staging/storage areas (Figure 1). The temporal extent of the Proposed Action is primarily limited to the construction phase scheduled to begin in the fall of 2012 and estimated to take place over an approximate 40 working day period.

1.4 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment of the Proposed Action and No Action Alternative and has determined that there is no potential for direct, indirect, or cumulative effects to the following resources:

- **Water Resources:** Currently some storm water runoff enters the Antioch Creek from the soccer fields. A new drainage system would be installed as part of the Proposed Action that has been designed to detain storm water runoff and facilitate at least some percolation of the storm water runoff into the underlying soils. The new drainage system which includes a rock layer and drain into the detention design, along with proposed landscaping and swales to attenuate and divert storm water runoff flows from adjacent hillsides, are expected to improve water quality. These improvements in addition to temporary Best Management Practices (BMPs) utilized during construction described in the Storm Water Pollution Prevention Plan (Appendix B) and permanent BMPs implemented on site as described in the Storm Water Control Plan (Appendix C) would ensure that there would be no adverse impacts to water resources.

- **Land Use:** The proposed project would only improve existing recreation facilities and extend the useful life of the facilities. There would be no adverse impacts or changes in current land use.

- **Indian Sacred Sites:** Executive Order 13007 requires Federal land managing agencies to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites.

No Indian sacred sites, as defined under Executive Order 13007, are known to exist within the project area and no such sites have been identified through a record search by the Native American Heritage Commission (NAHC) or through consultations with Indian tribes.

- **Indian Trusts Assets:** Indian trust assets (ITA) are legal interests in assets that are held in trust by the United States Government for federally recognized Indian tribes or individuals.

On May 27, 2010, a North State Resources archaeologist initiated the outreach process by sending comment solicitation letters to Native American contacts listed with the NAHC. No specific information about historic properties or locations of traditional use in the park area was received as a result of this outreach.

The nearest ITA is Lytton Rancheria approximately 28 miles west of the project location. There would be no adverse impacts to Indian Trusts Assets.

- **Environmental Justice:** There would not be any disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations as the proposed project is limited to existing facility improvements.

- **Socioeconomic Resources:** There is a potential for limited beneficial effects to socioeconomic resources as local supplies or services may be utilized during the construction

phase and the improvements may increase park visitation. In addition, there are potential reductions in water use and maintenance costs. There would be no adverse impacts to socioeconomic resources.

As there would be no adverse impacts to the resources listed above as a result of the Proposed Action or the No Action alternative, they will not be considered further.

1.5 Resources Requiring Further Analysis

This EA will analyze the affected environment of the Proposed Action and No Action Alternative in order to determine the potential direct, indirect, and cumulative effects to the following resources:

- Biological Resources
- Cultural Resources
- Air Quality
- Global Climate



Figure 1-1 Contra Loma Regional Park, Community Park and Proposed Action Area

Section 2 Alternatives Including the Proposed Action

This EA considers two possible actions: the No Action Alternative and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

2.1 No Action Alternative

Under the No-Action Alternative, no improvements to the Antioch Community Park soccer fields would take place. Drainage problems would continue to prevent use of the soccer fields during the rainy season and the lack of lighting would prevent use of the soccer fields after dark.

2.2 Proposed Action

Reclamation's action is to provide approval to EBRPD for improvements to the Antioch Community Park soccer fields, pursuant to the terms and conditions of the Management Agreement.

The improvements include the following:

- Grading of the site would take place to convert the existing soccer fields from a non-traditional cross pitch to a traditional crowned design;
- A new rock drainage system would be installed below the soccer fields to increase percolation and improve drainage of storm water;
- Swales and catch basins would be installed within the limits of the existing soccer fields to collect storm water runoff from the adjacent hillsides;
- New synthetic turf would replace the natural turf soccer field surfaces. The approximate area that these fields cover is 164,500 square feet;
- Approximately 10 existing trees in the existing landscaped area north of fields would be removed and replaced at a 3:1 ratio;
- Three black ornamental fences would be installed: 1) 1,840 linear feet of Type One 8 foot fence 2), 180 linear feet of Type Two 6 foot fence and 3) 240 linear feet of 8 foot fence with 16 foot soccer netting;
- Accessible access paths would be added to the site to allow access to the fields from the parking lot and the existing park walkway system;
- A new electrical/storage building with a footprint of approximately 9 feet by 12 feet would be constructed adjacent to the fields and along one of the new access paths;
- There would be 8 poles with a height of 70 feet having footings 12 feet deep installed for new field lights and security cameras within the existing field boundaries. Electrical connection would involve underground boring done from the western parking lot where the lines would enter a small electrical/storage building where they would be trenched to the light poles.

All construction-related disturbance would occur within the footprint of the existing turf fields without encroachment into the adjacent natural grassland areas to the south and west. The equipment and materials would be staged/stored in the existing eastern parking lot adjacent to the two existing soccer fields. All construction would conform to the existing soccer field footprint. Construction is scheduled to begin in the Fall of 2012 and would take place over an approximate 40 working day period. Construction equipment would utilize graders, backhoes, paving equipment, dump trucks, and specialized construction equipment for lighting and fencing. Materials removed during construction would be taken to an appropriate landfill by the contractor.

2.3 Environmental Commitments

The City of Antioch shall implement the following environmental protection commitments to reduce environmental consequences associated with the Action (Table 2-1). Environmental consequences for resource areas assume the commitments specified would be fully implemented.

Table 2-1 Environmental Commitments

Resource	Summary of Environmental Commitments	Timeframe for Implementation
Air Quality	<ol style="list-style-type: none"> 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations. Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator. 8. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations. <p>(Source: Bay Area Air Quality Management District Air Quality Guidelines)</p>	Construction Phase

Resource	Summary of Environmental Commitments	Timeframe for Implementation
Noise	<p>Compliance to the City of Anitoch's Construction Activity Noise Ordinance 5-17.05 is required including:</p> <p>(A) It shall be unlawful for any person to be involved in construction activity during the hours specified below:</p> <ul style="list-style-type: none"> (1) On weekdays prior to 7:00 a.m. and after 6:00 p.m. (2) On weekdays within 300 feet of occupied dwellings, prior to 8:00 a.m. and after 5:00 p.m. (3) On weekends and holidays, prior to 9:00 a.m. and after 5:00 p.m., irrespective of the distance from the occupied dwellings. <p>(B) In addition to the penalties provided by this code, authorized employees may issue "Stop Work Orders" when a violation of this section or § 5-17.04 has occurred. If such a Stop Work Order is issued, it shall not be released until the holder of the building permit provides assurance that future violations will not occur.</p>	Construction Phase
Biological Resources	A qualified biologist shall conduct pre-construction nesting bird surveys at each tree that will be removed. If nesting birds are found in the trees, removal shall be postponed until the young have fledged or until the nest is no longer in use.	Construction Phase
Biological Resources	Before any ground disturbing activities for the proposed project are begun, a preconstruction survey for the California tiger salamander shall be conducted by a qualified biologist. Documentation of the survey shall be transmitted to Reclamation's environmental staff and no work shall commence until that information is reviewed and notification of permission to proceed is provided by a Reclamation biologist.	Construction Phase
Biological Resources	Before any ground-disturbing construction activities for the proposed project begin on the project site, a qualified biologist shall conduct focused surveys for burrowing owls in areas of suitable habitat on and within 250 feet of the project construction footprint. Surveys shall be repeated if a two-day or longer lapse in project construction activities occurs. Surveys shall be conducted as detailed in the DFG staff report and Burrowing Owl Consortium Guidelines to avoid direct take.	Construction Phase
Biological Resources	If no occupied burrows are found in the survey area, a letter report documenting survey methods and findings will be submitted to Reclamation at least 5 days before construction.	Construction Phase
Biological Resources	If occupied burrowing owl burrows are found prior to initiating construction, impacts will be minimized by establishing a buffer around the burrow of 160 feet during the non-breeding season (September 1 through January 31). During the breeding season (February 1 through August 31), impacts will be minimized by establishing a buffer around the burrow of 250 feet for all project-related construction activities until a qualified biologist confirms that the nest is no longer active. Active nests will be monitored by a qualified biologist to determine when the young have fledged and are feeding on their own. Reclamation will be consulted for clearance before construction activities resume with a non-disturbance buffer.	Construction Phase

Biological Resources	If a burrowing owl is observed at the construction site at any time during construction, then exclusion fencing will be used to establish a safe buffer area until the animal moves out of the construction.	Construction Phase
Biological Resources	To prevent inadvertent entrapment of wildlife during construction, all excavated, steep-walled holes or trenches more than one foot deep will 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 will be thoroughly inspected for trapped animals. If at any time wildlife is found trapped or injured, Reclamation must be contacted immediately.	Construction Phase
Biological Resources	All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at the construction site for one or more overnight periods should be thoroughly inspected for animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a special-status species is discovered inside a pipe, that section of pipe should not be moved until Reclamation has consulted with the Service.	Construction Phase
Biological Resources	Prior to initiation of any on-site preparation/construction activities, a Reclamation approved biologist shall conduct an education and training session for all available individuals who will be involved in the site preparation or construction, including the project representative(s). Training sessions will be required for all new or additional personnel before they are allowed to access the project site. Attendance sheets identifying attendees and the contractor/company they represent will be provided to Reclamation. The training will include, at a minimum, the species listed in Table 1 as "possible", "present", or "unlikely". The training will include a description of the species, its habitat, and the necessary measures to protect and avoid it on-site.	Construction Phase
Biological Resources	Exclusion fencing shall be placed around the construction areas, trenching areas and staging areas to keep California tiger salamanders from entering these areas. A Reclamation-approved biological monitor will be on-site during the installation of the fencing and will ensure that the exclusion fencing is continuously maintained, and that all construction equipment is confined to designated work areas, until all construction activities are completed.	Construction Phase
Biological Resources	Before the start of work each morning, the on-site Reclamation approved biological monitor will check for animals under all vehicles and equipment such as stored pipes, and in all steep-walled holes or trenches greater than one foot deep. California tiger salamanders will only be removed by individuals that have a special permit issued by the Service allowing them to handle listed species. If a California tiger salamander is discovered, work on the project must stop immediately and Reclamation and the Service will be contacted for further guidance.	Construction Phase
Biological Resources	Burrows that may be used by the California tiger salamander shall be avoided.	Construction Phase
Biological Resources	To avoid effects to the California tiger salamander, construction shall not occur at nighttime or during the rainy-season.	Construction Phase

Biological Resources	A preconstruction survey would be conducted by the Reclamation approved biologist no less than 14 and no more than 30 days prior to any construction activities on the project site, for the San Joaquin kit fox, its sign and burrows. If no kit foxes, kit fox sign or burrows are found during the survey, a letter report documenting survey methods and findings will be submitted to Reclamation at least 5 days before construction. If kit foxes, kit fox sign or burrows are found during the survey, construction shall not commence until receiving Reclamation's approval.	Construction Phase
Biological Resources	All equipment will be maintained in accordance with the manufacturer's directions so there will be no leaks of fluids such as gasoline, oils, or solvents.	Construction Phase
Biological Resources	All food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed at least once a week from a construction or project site.	Construction Phase
Biological Resources	To prevent harassment, injury or mortality of California tiger salamander (or other special-status species), or their refugia or burrows no pets of any kind will be permitted on the project site.	Construction Phase
Biological Resources	If any listed species are observed in the project area, the project will be rescheduled to avoid all impacts to species. Scheduled operations and maintenance activities will be rescheduled or postponed to avoid impacts to listed species.	Construction Phase

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Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

3.1 Biological Resources

3.1.1 Affected Environment

Habitat in the Project Area

The project area contains two existing soccer fields with maintained lawns. There are gently sloping landscaped hills to the immediate north of the soccer fields planted with ornamental Ash (*Fraxinus* sp.) and London plane trees (*Platanus x hispanica*). There are undeveloped annual grasslands, which are disced annually for fire control, bordering the south and southwestern edges of the soccer fields that contain scattered Valley oaks (*Quercus lobata*) (LSA 2012). There are undeveloped annual grasslands bordering the east and west of the soccer fields. The parking lot to the east that will be used as a staging area is also bordered by undeveloped annual grasslands. There is undeveloped annual grassland to the south of the project area that consists of ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordaceous*), and rye grass (*Festuca perennis*) with some scattered occurrences of mustard (*Brassica* sp.) and Italian thistle (*Carduus pycnocephalus*) as well (LSA 2012). The northern edge of the project area is bordered by disturbed annual grassland with a canal, a road and a residential area to the north. There is a golf course less than a quarter mile to the southeast of the project area. Antioch Municipal Reservoir is located about a quarter mile to the east of the project area, and Contra Loma Reservoir is located about a quarter mile to the west of the project area.

There is no designated or proposed critical habitat in the project area.

Special-Status Species

Reclamation requested an official species list from the U.S. Fish and Wildlife Service (USFS) on July 26, 2012 via the Sacramento field office's website, http://www.fws.gov/sacramento/es/spp_list.htm (Document number: 120726104748). This list is for the Antioch South 7½ minute U.S. Geological Survey topographic quadrangle (USFWS 2012). The CDFG California Natural Diversity Database was also queried for records of protected species within 10 miles of the Proposed Project location (CNDDDB, 2012). A reconnaissance survey was conducted by LSA biologist Matt Ricketts on July 9, 2012 to further evaluate the potential for special-status species to occur on the project site (LSA 2012). The information collected above, in addition to information within Reclamation's files, was combined to create the following list (Table 3-1)

Table 3-1 Federally protected Species with Potential to be Present

Species	Status	Occurrence Potential in the Project Area
Invertebrates		
conservancy fairy shrimp <i>Branchinecta conservatio</i>	E	Absent. No individuals or vernal pools in the area of effect.
longhorn fairy shrimp <i>Branchinecta longiantenna</i>	E	Absent. No individuals or vernal pools in the area of effect.
vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T, X	Absent. No individuals, critical habitat or vernal pools in the area of effect.
valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T	Absent. No individuals or elderberry shrubs in the area of effect.
vernal pool tadpole shrimp <i>Lepidurus packardi</i>	E	Absent. No individuals or vernal pools in the area of effect.
Fish		
Delta smelt <i>Hypomesus transpacificus</i>	T, X	Absent. No waterways or critical habitat are present in the area of effect.
Central Valley steelhead <i>Oncorhynchus mykiss</i>	T, NMFS	Absent. No waterways are present in the area of effect.
Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	T, NMFS	Absent. No waterways are present in the area of effect.
winter-run Chinook salmon, Sacramento River <i>Oncorhynchus tshawytscha</i>	E, NMFS	Absent. No waterways are present in the area of effect.
Amphibians		
California tiger salamander, Central population <i>Ambystoma californiense</i>	T	Possible. CNDDDB-records within one mile and multiple small mammal burrows in the project area.
California red-legged frog <i>Rana draytonii</i>	T	Unlikely.
Reptiles		
Alameda whipsnake <i>Masticophis lateralis euryxanthus</i>	T, X	Absent. No individuals or suitable habitat in the area of effect.
giant garter snake <i>Thamnophis gigas</i>	T	Absent. No individuals or suitable habitat in the area of effect.
Birds		
California clapper rail <i>Rallus longirostris obsoletus</i>	E	Absent. No individuals or suitable habitat in the area of effect.
California least tern <i>Sternula antillarum browni</i>	E	Absent. No individuals or suitable habitat in the area of effect.
burrowing owl <i>Athene cunicularia hypugea</i>	MBTA	Possible. CNDDDB-records within one mile and multiple small mammal burrows in the project area.

white-tailed kite <i>Elanus leucurus</i>	MBTA	Possible. Suitable nesting habitat was observed in the project area.
loggerhead shrike <i>Lanius ludovicianus</i>	MBTA	Present. Observed in the project area during a July 2012 reconnaissance survey (LSA 2012).
Mammals		
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	E	Unlikely.
Plants		
large-flowered fiddleneck <i>Amsinckia grandiflora</i>	E	Absent. No individuals or suitable undisturbed native soils in the area of effect.
Contra Costa goldfields <i>Lasthenia conjugens</i>	E	Absent. No individuals or suitable undisturbed native soils in the area of effect.
Sources: U.S. Fish and Wildlife Service Sacramento Database 2012, CNDDDB 2012 Status = Listing of Federally special status species, unless otherwise indicated E: Listed as Endangered MBTA: birds protected under the Migratory Bird Treaty Act NMFS: Species under the jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service T: Listed as Threatened X: Critical Habitat designated for this species Definition of Occurrence Indicators Present: Species observed in the project area Possible: Species reported in area and habitat present Unlikely: Species recorded in vicinity of project area, but lands provide unsuitable habitat Absent: Species not reported from service area and habitat requirements not met		

3.1.1.1 Special-Status Plants

No Special-status plant species have been identified within the project area itself, or within the vicinity. The immediate project area has been disturbed by ongoing maintenance activities, and lacks undisturbed native soils.

3.1.1.2 Special-Status Wildlife

Many of the special-status wildlife species have no potential to be present in the project area due to a lack of suitable habitat. Federally protected species with the potential to occur in the project area include the California red-legged frog (*Rana draytonii*), the San Joaquin kit fox (*Vulpes macrotis mutica*), the white-tailed kite (*Elanus leucurus*), the loggerhead shrike (*Lanius ludovicianus*), the burrowing owl (*Athene cunicularia hypugea*) and the California tiger salamander (*Ambystoma californiense*).

California red-legged frog

The California red-legged frog is federally listed as a threatened species. Their diet consists mainly of invertebrates, but larger red-legged frogs also eat small amphibians and mammals. California red-legged frogs live near the standing or slow moving waters of ponds, streams, marshes, stock ponds or reservoirs. Breeding ponds typically have a minimum depth of 20 inches, although some California red-legged frogs have been able to breed successfully in pools with depths of only 10 inches (Fellers 2005). This species requires the shelter of tall grasses, cattails, downed trees, leaf litter or small animal burrows to protect them from predators and

desiccation (AFWO 2011). They have been known to travel up to two miles in response to changing water levels and precipitation. (USFWS 2005).

There are CNDDDB-recorded occurrences of California red-legged frogs within two miles of the project site. Although the project site is located about a quarter mile from both the Contra Loma Reservoir and the Antioch Municipal Reservoir, these bodies of water do not provide suitable habitat for the species due to the abundance of bullfrogs, crayfish and predatory fish living in them. California red-legged frogs are not expected to use the project area for dispersal or movement due to the lack of suitable aquatic habitat in the vicinity. It is unlikely that this species will occur in the project area.

San Joaquin kit fox

The San Joaquin kit fox is federally listed as an endangered species. Their diet varies based on prey availability, and includes small to mid-sized mammals, ground-nesting birds, and insects. Kit foxes generally live in arid, relatively flat annual grassland and saltbush scrub habitats, but they are also found in urban areas like parks and golf courses. Kit foxes excavate their own dens or will use other animal and human-made structures (culverts, abandoned pipelines, and banks in sumps or roadbeds) (USFWS 1998).

There are CNDDDB-recorded occurrences of San Joaquin kit foxes less than one mile from the project site. The most recent CNDDDB-recorded occurrence of kit foxes within five miles of the project area occurred 17 years ago in 1995 (CNDDDB 2012). Coyotes, a predator of the kit fox, are expected to occur in the project area (LSA 2012); their presence significantly reduces the site's suitability for kit foxes. Any kit foxes present on or near the project site are likely just moving through the area, and are not expected to permanently reside there. During their reconnaissance survey of the project site, LSA did not observe any dens large enough for use by kit foxes (LSA 2012). It is unlikely that this species will occur in the project area.

White-tailed kite

The white-tailed kite is protected under the federal Migratory Bird Treaty Act (16 U.S.C. §703 et seq.). This species is present year-round throughout its range in California. White-tailed kites usually nest in oak woodlands or trees that border marshes; however this species may build its nest near the top of any tree or shrub of moderate height, such as eucalyptus, toyon or cottonwood. White-tailed kites nest between February and August, with peak nesting occurring in the spring months. The female lays 3-6 eggs and incubates them for about 28 days. The male feeds the female and the young. The young leave the nest in about 35 to 40 days. This species diet consists of insects, amphibians and small rodents. White-tailed kites forage in agricultural fields and open areas, where they can hover and vertically descend on their prey (CDFG 1995).

The trees present in the project area provide marginal nesting habitat for this species, and the scattered oak trees to the south of the project area provide suitable nesting habitat as well. The open areas in the project area, and the grasslands surrounding it, provide suitable foraging habitat for this species. It is possible that this species may forage or nest in the project area.

Loggerhead shrike

The loggerhead shrike is protected under the federal Migratory Bird Treaty Act (16 U.S.C. §703 et seq.). The loggerhead shrike is a migratory bird, but is present year-round throughout most of its range in California. This species breeds between January and July in scrub and open woodland habitats with grass cover and areas of bare ground. This species requires tall trees, shrubs or utility poles for territorial displays, hunting and nesting. Loggerhead shrikes also require areas with short grass or bare ground for hunting. This species eats insects, reptiles, amphibians, birds and small rodents. Loggerhead shrikes hunt from a perch and then impale their prey on barbed wire or thorns for easy manipulation and storage (Shuford & Gardali 2008).

During their reconnaissance survey on July 9, 2012, LSA observed a loggerhead shrike perched in a tree in the southern portion of the project area. No loggerhead shrike nests were found in the project area, but the oaks surrounding the soccer fields provide suitable nesting habitat for this species. The openness of the project area and the fence located in the southern portion of the project area provide optimal foraging habitat for this species (LSA 2012).

Burrowing owl

The burrowing owl is a federal species of concern and is protected under the federal Migratory Bird Treaty Act. Their diet consists of small mammals, birds, amphibians, invertebrates and insects. Burrowing owls forage in pastures, croplands, and areas with sparse vegetation. They nest in mammal burrows or natural cavities (Klute et al).

There are CNDDDB-recorded occurrences of burrowing owls less than one mile from the project site. The grassland habitats at the project site and the areas immediately surrounding it could provide suitable habitat for burrowing owls. During LSA's reconnaissance survey, an abundance of ground squirrel and pocket gopher burrows were observed on the project site, and may be used by this species (LSA 2012). Portions of the grassland habitat are disced annually and landscaped portions of the project area are regularly mowed; these activities reduce the vegetation around potential owl burrows and may further enhance the suitability of habitat on the project site (Klute et al.). It is very likely that this species will occur in the project area.

California tiger salamander

The California Tiger Salamander is federally listed as a threatened species. Their diet consists of aquatic invertebrates, zooplankton, and small tadpoles. California tiger salamanders live in grasslands and oak savannahs with scattered trees in the low hills and valleys of central and coastal California. They are nocturnal and spend the dry summer and autumn months underground in small mammal burrows (EPA 2010). They emerge from their underground burrows and migrate as far as 1.3 miles to feed and return to breeding ponds during the first winter rains (between November and March). Tiger salamanders breed and lay their eggs in vernal pools, and small seasonal ponds that contain water at least three and a half months out of the year. The metamorphosed juveniles leave their ponds in late spring and early summer to find shelter in upland burrows (USFWS 2003).

There are CNDDDB-recorded occurrences of the California tiger salamander less than one mile from the project site. The project site, and the areas immediately surrounding it, contain potential grassland habitat that may be used by this species. Multiple small mammal burrows were observed in the project area, and may be inhabited by this species (LSA 2012). There is an intermittent stream with areas of seasonal ponding that produce suitable breeding habitat for this

species approximately 0.9 miles to the south of the action area; nine adults were observed in this area in November of 1989 (CNDDDB Occurrence No. 101; CDFG 2012). Although the suitable breeding habitat is located less than one mile from the project site, there is a fairly steep hill that separates it from the project area which makes it less likely that California tiger salamanders will disperse into the project area. There is a small drainage area behind the Contra Loma dam about a quarter mile to the west of the project site; however it is likely that this area is inhabited by bullfrogs, which makes it unsuitable for use by California tiger salamanders. It is possible, but unlikely, that this species will occur in the project area.

3.2 Environmental Consequences

No Action

There would be no adverse impacts to biological resources with the No Action Alternative.

Proposed Action

With the exception of the electrical trenching to the west, all construction on the project will occur within the footprint of the existing fields. This project would cause some ground disturbances, alteration of vegetation, and generation of noise, however because the provided avoidance measures would be fully implemented there would not be any impacts to listed species in the area. With the above limitations, Reclamation has determined there would be *No Effect* to proposed or listed species or critical habitat under the Endangered Species Act of 1973, as amended (16 U.S.C. §1531 et seq.), and no take of birds protected under the Migratory Bird Treaty Act (16 U.S.C. §703 et seq.).

3.3 Cultural Resources

3.3.1 Affected Environment

A cultural resource is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. Those cultural resources that are listed on, or are eligible for inclusion in, the National Register of Historic Places (National Register) are referred to as historic properties. The criteria for National Register eligibility are outlined at 36 CFR § 60.4. The primary Federal preservation law is the National Historic Preservation Act of 1966, as amended in 1992 (NHPA). Other applicable federal cultural resources laws and regulations that could apply include, but are not limited to, the Native American Graves Protection and Repatriation Act and the Archaeological Resources Protection Act.

Under Section 106 of the NHPA, federal agencies must consider the effects of their actions (undertaking) on historic properties. An adverse effect is found “when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association (36 CFR § 800.5(a)(1)).” Adverse effects to historic properties must be resolved through the Section 106 of the NHPA process prior to approval of the undertaking.

In an effort to identify historic properties, Reclamation reviewed its project files and utilized a cultural resources study that was conducted by North State Resources (2012) for the Contra

Loma Reservoir and Recreation Area. This research included a records search at the Northwest Information Center, archival research, and field visits to any previously recorded sites. Antioch Community Park at Contra Loma was built on part of an old ranch complex. Some associated remnant almond orchard, ornamental eucalyptus trees, and various non-native shrubs are located outside of the project area. No other cultural resources were noted within the Antioch Community Park. No cultural resources were identified through Reclamation's consultations with Indian tribes and Native American organizations. Reclamation found no historic properties present in the area of potential effects.

Reclamation documented its findings in a consultation package sent to the California State Historic Preservation Officer (SHPO) on June 22, 2012 seeking their concurrence on our finding of no historic properties affected (36 CFR § 800.4[d][1]). According to Reclamation's delivery notification, the SHPO received our consultation package on June 28, 2012. According to 36 CFR § 800.5(c)(1), if the SHPO has not provided a response within 30 days of a receipt of a finding of effect, and if no consulting party has objected, then the agency official shall carry out the undertaking. No responses or objections have been received by Reclamation regarding this finding of effect.

3.3.2 Environmental Consequences

No Action

Under the No Action Alternative, Antioch Community Park at Contra Loma would continue to be operated per the existing management plan and conditions related to cultural resources would remain the same as existing conditions.

Proposed Action

The Proposed Action is the type of activity that has the potential to affect historic properties. A records search and Tribal consultation failed to identify historic properties within the APE. Since no historic properties are present, there will be no effect on such properties as a result of implementing the Proposed Action. As a result of Reclamation's efforts to consult with the SHPO on Reclamation's finding of no historic properties affected, and the fact the SHPO has not provided a response within 30 days and no other party has objected to our finding, the proposed undertaking shall be permitted to move forward under NHPA Section 106. If the SHPO responds, or re-enters the Section 106 process, and objects to our findings, Reclamation shall seek to resolve any reasonable concerns; however, this effort shall not delay or stall the implementation of this project.

Cumulative Impacts

The Proposed Action will have no effect on historic properties; therefore, there will be no cumulative impacts to historic properties as a result of this action.

3.4 Air Quality

Section 176 (C) of the Clean Air Act [CAA] (42 U.S.C. 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal CAA

(42 U.S.C. 7401 [a]) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with SIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements would, in fact conform to the applicable SIP before the action is taken.

On November 30, 1993, the EPA promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by the Proposed Action equal or exceed certain *de minimis* amounts thus requiring the federal agency to make a determination of general conformity.

3.4.1 Affected Environment

Antioch is located on the south side of the Carquinez Strait, the only sea-level gap in the Coast Ranges of California. Strong, persistent winds usually flow westward through the Carquinez Strait. These winds dilute pollutants and transport them to surrounding regions. Pollutants generated or carried through Antioch by the wind are often carried eastward into the Sacramento and San Joaquin valleys. Likewise, pollutants generated in other portions of the Bay Area to the west are transported to Antioch (City of Antioch 2003b).

The Environmental Protection Agency and California Air Resources Board have primary responsibility for setting emission standards for motor vehicles and off-highway equipment such as construction and maintenance equipment. The Bay Area Air Quality Management District (BAAQMD) has primary responsibility for regulating air pollution emissions from stationary sources such as factories and power plants as well as from indirect sources such as traffic generated by land uses or facilities that do not have stationary sources. The BAAQMD is also responsible for monitoring ambient air pollutant concentrations.

The BAAQMD's air monitoring program operates a network of 28 air monitoring stations that measure air quality levels in the Bay Area. The stations nearest to Contra Loma are located in Martinez (18 miles to the west) and Bethel Island (9 miles to the east). The Bay Area is in non-attainment for state and federal ozone standards, and for PM_{2.5} and PM₁₀ (Bay Area Air Quality Management District 2010).

3.4.2 Environmental Consequences

No Action

There would be no adverse impacts to air quality with the No Action Alternative.

Proposed Action

Air quality impacts from the Proposed Action would be limited to those resulting from construction emissions. Construction would begin in the summer of 2012 and would take place over an approximate 40 working day period.

Construction of the Proposed Action would generate pollutant emissions from a variety of emission sources and activities. All phases of project construction—project mobilization, site preparation, site clearing and grubbing, and construction—would generate air emissions. The primary pollutant-generating activities associated with these phases include:

- exhaust emissions from construction vehicles and equipment;
- exhaust emissions from vehicles used to deliver supplies to the project site or to haul materials from the site;
- exhaust emissions from worker commute trips;
- fugitive dust from grading; and
- fugitive dust from equipment operating on exposed earth and from the handling of construction materials.

Construction equipment for the proposed action would most likely include graders, backhoes, paving equipment, dump trucks, and specialized construction equipment for lighting and fencing. It is estimated that the Proposed Action would require heavy equipment operation for the first 2 months of the 3 month project during demolition, grading, drainage/irrigation, and base preparation totaling 370 hours.

Table 3-2 displays the de minimis daily thresholds or the amount of emissions determined to cause less than significant impacts to air quality.

Table 3-2 General Conformity *de minimis* Thresholds

Pollutant	Construction-Related
Criteria Air Pollutants and Precursors (Regional)	Average Daily Emissions (lb/day)
ROG (reactive organic gas)	54
NOX (oxides of nitrogen)	54
PM 10 (particulate matter 10 microns in diameter or smaller)	82 (exhaust)
PM 2.5 (particulate matter 2.5 microns in diameter or smaller)	54 (exhaust)
Local CO (carbon monoxide)	None

Bay Area Air Quality Management District Air Quality Guidelines

Table 3-3 displays the estimated operational hours for each type of construction equipment that would be utilized with the Proposed Alternative.

Table 3-3 Estimated Operational Emissions Per Hour

Equipment	ROG lb/hr	NOX lb/hr	PM 10/2.5 lb/hr	CO lb/hr	Total Daily Hours	Estimated Total Hours
Graders 250 HP	0.1761	1.7904	0.0662	0.4934	8	200
Tractors/Loaders/Backhoes 120 HP	0.0910	0.5664	0.0515	0.3623	8	170
Bore/Drill Rigs 120 HP	0.0722	0.6155	0.0456	0.4182	8	40
Total	0.3393	2.9723	0.1637	1.2739	8	
Hourly emissions X 8 (daily operational hours)	2.7144	23.7784	1.3096	10.1912		

All pollutants fall far below the de minimis thresholds set by the Bay Area Air Quality Management District. As such, there would be no significant direct impacts to air quality from the Proposed Action. Materials removed during construction would be taken to an appropriate landfill by the contractor.

Cumulative Impacts

The Proposed Action would result in an increase in emissions during the construction phase. While these emissions would be an adverse cumulative impact, they would not be a significant adverse cumulative impact because the modeling completed to estimate emissions from construction activities indicated a de minimis determination. In addition, emissions from construction would be reduced below that estimated in the modeling as a result of compliance with the environmental commitments described in Section 2.3 of this EA.

3.5 Global Climate

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes can contribute to climate change [changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.] (EPA 2011a)

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG, such as carbon dioxide (CO₂), occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO₂, methane (CH₄), nitrous oxide, and fluorinated gasses (EPA 2011a).

During the past century humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities and appliances. The added gases, primarily CO₂ and CH₄, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes. At present, there are uncertainties associated with the science of climate change (EPA 2011b).

Climate change has only recently been widely recognized as an imminent threat to the global climate, economy, and population. As a result, the national, state, and local climate change regulatory setting is complex and evolving.

In 2006, the State of California issued the California Global Warming Solutions Act of 2006, widely known as Assembly Bill 32, which requires California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is further directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020.

In addition, the EPA has issued regulatory actions under the CAA as well as other statutory authorities to address climate change issues (EPA 2011c). In 2009, the EPA issued a rule (40 CFR Part 98) for mandatory reporting of GHG by large source emitters and suppliers that emit 25,000 metric tons or more of GHG [as CO₂ equivalents (CO_{2e}) per year] (EPA 2009). The rule is intended to collect accurate and timely emissions data to guide future policy decisions on climate change and has undergone and is still undergoing revisions (EPA 2011c).

3.5.1 Affected Environment

Global mean surface temperatures have increased nearly 1.8°F from 1890 to 2006 (Intergovernmental Panel on Climate Change 2007). Models indicate that average temperature changes are likely to be greater in the northern hemisphere. Northern latitudes (above 24°North) have exhibited temperature increases of nearly 2.1°F since 1900, with nearly a 1.8°F increase since 1970 alone (Intergovernmental Panel on Climate Change 2007). Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of GHG are likely to accelerate the rate of climate change.

More than 20 million Californians rely on the SWP and CVP. Increases in air temperature may lead to changes in precipitation patterns, runoff timing and volume, sea level rise, and changes in the amount of irrigation water needed due to modified evapotranspiration rates. These changes may lead to impacts to California's water resources and project operations.

While there is general consensus in their trend, the magnitudes and onset-timing of impacts are uncertain and are scenario-dependent (Anderson et al. 2008).

3.5.2 Environmental Consequences

No Action

There would be no changes to baseline greenhouse gas emissions with the No Action Alternative.

Proposed Action

The construction phase of the Proposed Action would result in the direct emissions of GHGs through the use of petroleum fuels. The operational phase of the Proposed Action would result in indirect emissions through the use of electrical power.

Table 3-4 Greenhouse Gas Emissions

Equipment	CO2 lbs/hr	CO2e Total lbs	CH4 lbs/hr	CH4 Total lbs	CO2e	Total Daily Hours	Estimated Total Hours
Graders 250 HP	172	34400	0.015	3.18	66.78	8	200
Tractors/Loaders/Backhoes 120 HP	51.7	8789	0.008	1.39	29.27	8	170
Bore/Drill Rigs 120 HP	77.1	30.84	0.006	0.26	5.46	8	40
Total	300.8	43219.84	0.030	4.83	101.51	8	410

These emissions would not continue past the Proposed Action completion date. The total CO2e of 43,219.84 lbs (21.66 tons total) is far below the 75,000 tons per year threshold for significant GHG emissions. As such, this would not result in a substantial change in GHG emissions, and there would be no adverse effect.

Cumulative Impacts

GHG generated by the Proposed Action is expected to be extremely small as GHG emissions are de minimis and temporary from construction and electricity used to light the fields would not increase electrical generation. While any increase in GHG emissions would add to the global inventory of gases that would contribute to global climate change, the Proposed Action would

result in potentially minimal to no increases in GHG emissions and a net increase in GHG emissions among the pool of GHG would not be detectable.

Section 4 Consultation and Coordination

4.1 Public Review Period

No formal public review of an EA is required—only public notice. Reclamation determined that a public review period and solicitation for comments was unnecessary for this project based on the lack of potentially adverse impacts to the environment and the project's overall benefit to the community.

4.2 Endangered Species Act (16 U.S.C. § 1531 et seq.)

Section 7 of the Endangered Species Act requires Federal agencies, in consultation with the Secretary of the Interior and/or 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.

The majority of special-status plants and animals would most likely not occur within the project area. With the implementation of the provided avoidance and minimization measures (Table 2-1), the project is not expected to adversely affect any special-status species.

4.3 National Historic Preservation Act (16 U.S.C. § 470 et seq.)

Section 106 of the NHPA requires Federal agencies to consider the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation an opportunity to comment. Consultations are conducted as outlined in the implementing regulations found at 36 CFR Part 800. Reclamation initiated consultations with the SHPO on June 22, 2012. In addition, consultations were initiated with the Ione Band of Miwok Indians pursuant to 36 CFR § 800.2(c)(2)(ii) and § 800.4(a)(4). Reclamation also requested assistance in identifying historic properties to the Indian Canyon Mutsun Band of Costanoan, Muwekma Ohlone Indian Tribe of San Francisco Bay, and the Ohlone Indian Tribe pursuant to 36 CFR § 800.4(a)(3). No historic properties or concerns regarding effects to sites of religious or cultural significance have been received to date.

4.4 Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.)

The MBTA implements various treaties and conventions between the United States 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 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.

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, and similarly, Executive Order 11990 places similar requirements for actions in wetlands. The Proposed Action would not affect either concern.

4.6 Clean Water Act (33 U.S.C. § 1251 et seq.)

Section 401 of the Clean Water Act [CWA] (33 U.S.C. § 1311) prohibits the discharge of any pollutants into navigable waters, except as allowed by permit issued under sections 402 and 404 of the CWA (33 U.S.C. § 1342 and 1344). If new structures (e.g., treatment plants) are proposed, that would discharge effluent into navigable waters, relevant permits under the CWA would be required for the project applicant(s). Section 401 requires any applicant for an individual U. S. Army Corps of Engineers dredge and fill discharge permit (Section 404) to first obtain certification from the state that the activity associated with dredging or filling will comply with applicable state effluent and water quality standards. This certification must be approved or waived prior to the issuance of a permit for dredging and filling.

No activities such as dredging or filling of wetlands or surface waters would be required for implementation of the Proposed Action, therefore permits obtained in compliance with CWA are not required.

Section 5 List of Preparers and Reviewers

Chuck Siek M.A., Supervisory Natural Resources Specialist, SCCAO

Lisa Carlson, Wildlife Biologist, SCCAO

Amy Barnes M.A., Archaeologist, MP-153

Patricia Rivera, ITA, MP-400

Section 6 List of Acronyms and Abbreviations

APE	Area of Potential Effect
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO ₂	Carbon dioxide
CWA	Clean Water Act
EA	Environmental Assessment
EBRPD	East Bay Regional Park District
EPA	Environmental Protection Agency
FWCA	Fish and Wildlife Coordination Act
ESA	Endangered Species Act
GHG	greenhouse gases
ITA	Indian Trust Asset
MBTA	Migratory Bird Treaty Act
mg/m ³	Milligram per cubic meter
M&I	Municipal and Irrigation
National Register	National Register of Historic Places
NHPA	National Historic Preservation Act
PM _{2.5}	Particulate matter less than 2.5 microns in diameter
PM ₁₀	Particulate matter between 2.5 and 10 microns in diameter
PPM	Parts per million
Reclamation	Bureau of Reclamation
SIP	State Implementation Plan
µg/m ³	Microgram per cubic meter

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