

RECLAMATION

Managing Water in the West

Final Environmental Assessment

Contra Costa Water District Gilbert Property Inclusion

EA-13-054



U.S. Department of the Interior
Bureau of Reclamation

March 2017

Mission Statements

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated 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.

Contents

	Page
Section 1 Introduction	1
1.1 Background	1
Gilbert Property Project	1
1.2 Need for the Proposed Action	2
Section 2 Alternatives Including the Proposed Action	5
2.1 No Action Alternative	5
2.2 Proposed Action	5
2.2.1 Permitting for the Proposed Action	8
2.2.1 Environmental Commitments	8
Section 3 Affected Environment and Environmental Consequences	9
3.1 Resources Eliminated from Further Analysis	9
3.2 Air Quality	9
3.2.1 Affected Environment	10
3.2.2 Environmental Consequences	10
3.3 Biological Resources	11
3.3.1 Affected Environment	12
3.3.2 Environmental Consequences	13
3.4 Cultural Resources	15
3.4.1 Affected Environment	15
3.4.2 Environmental Consequences	16
3.5 Global Climate Change	17
3.5.1 Affected Environment	17
3.5.2 Environmental Consequences	18
3.6 Land Use	18
3.6.1 Affected Environment	18
3.6.2 Environmental Consequences	19
3.7 Transportation	20
3.7.1 Affected Environment	20
3.7.2 Environmental Consequences	20
3.8 Water Resources	22
3.8.1 Affected Environment	22
3.8.2 Environmental Consequences	22
Section 4 Consultation and Coordination	25
4.1 Public Review Period	25
4.2 List of Agencies Consulted	25
4.3 Construction General Permit	25
4.4 Clean Water Act (33 U.S.C. § 1251 et seq.)	25
4.5 Endangered Species Act (16 U.S.C. § 1531 et seq.)	26
4.6 National Historic Preservation Act (16 U.S.C. § 470 et seq.)	26
Section 5 References	29

Figure 1. Proposed Action Area.....	3
Figure 2. General Schematic of Proposed Gilbert Property development.....	7
Table 1. General Summary of Impacts Analyzed in EIR.	2
Table 2. Environmental Protection Measures and Commitments.	8
Table 3. Resources Eliminated from Further Analysis.....	9
Table 4. Proposed Action Area Air Quality Attainment Status.....	10
Table 5. Estimated Criteria Air Pollutant Emissions.....	11
Table 6. Federally Listed Species That May Occur In Or Near The Area.	13
Table 7. Major Residential Subdivision in the Immediate Area.....	20
Appendix A Clean Water Act Section 401 Water Quality Certification	
Appendix B Cultural Resources Determination	
Appendix C Memorandum of Agreement	

Section 1 Introduction

The Bureau of Reclamation (Reclamation) provided the public with an opportunity to comment on the Draft Finding of No Significant Impact (FONSI) and Draft Environmental Assessment (EA) between December 30, 2016 and January 31, 2017. No comments were received. Changes between this Final EA and the Draft EA, which are not minor editorial changes, are indicated by vertical lines in the left margin of this document.

1.1 Background

Contra Costa Water District (Contra Costa WD) has a long-term water service contract (Contract No. I75r-3401A-LTR1) with Reclamation for receipt of Central Valley Project (CVP) water for municipal and industrial (M&I) use. Contra Costa WD in turn provides a portion of their allocated CVP water supply to the Diablo Water District (Diablo WD) which is the local water purveyor for the City of Oakley. Contra Costa WD also operates and maintains Reclamation federal facilities located within their CVP service area, as described by, and pursuant to an operating agreement (Contract No. 14-06-200-6072A).

Gilbert Property Project

In March 1998, the Contra Costa County Local Agency Formation issued a certificate of completion to the Diablo WD and the Contra Costa WD for the annexation of the Cypress Hotchkiss Boundary Reorganization that included the 120-acre Gilbert Property (see Figure 1). The Gilbert Property is a proposed development located in an undeveloped portion of the City of Oakley that consists of 506 residential units, a park, a stormwater detention pond area, trails, and levees. On January 25, 2007, the City of Oakley released a draft Environmental Impact Report (EIR) (SCH# 2007012075) for a 30-day public review that analyzed the proposed Gilbert Property development in accordance with the California Environmental Quality Act (CEQA). The Gilbert EIR evaluated and disclosed potential environmental impacts that could result from construction of the proposed development (see Table 1), and included mitigation measures for those impacts that were determined to be significant. A Notice of Determination with a Statement of Overriding Consideration was filed by the City of Oakley and approved by Contra Costa County on November 15, 2007 determining that there would be significant effects on the environment from the proposed development and that implementation of mitigation measures are a condition of approval for the development (City of Oakley 2007b)¹. The findings of the Gilbert EIR and Notice of Determination are therefore incorporated by reference into this analysis.

¹ The Gilbert Property project analyzed in the EIR is substantially the same as the project that was finally approved by the City of Oakley. The project as analyzed in the EIR included up to 506 residential units, a stormwater detention pond, and an approximately three-acre park. The project, as approved by the City, includes 506 residential units. The park and stormwater detention pond area remain the same as analyzed by the EIR.

Various water supply sources for the Gilbert Property were analyzed in the EIR, and included surface and groundwater from Contra Costa WD, as well as water transfers, annual purchases of supplemental water, water recycling, conservation and improvement of water quality and water storage capacity (Contra Costa WD's Los Vaqueros Reservoir). CVP water from Contra Costa WD was identified as the only reliable source of water. Therefore, the Developers for the Gilbert Property have requested to be included into Contra Costa WD's CVP service area in order to receive CVP water. Pursuant to their water service contract, Contra Costa WD has requested approval from Reclamation for the inclusion of the 120-acre Gilbert Property into their CVP service area for receipt of CVP water supplies.

Table 1. General Summary of Impacts Analyzed in EIR.

Resources	Impact¹	Mitigated²
Aesthetics	Potentially Significant	Less than Significant
Air Quality	Significant	Significant and Unavoidable ³
Biological	Potentially Significant	Less than Significant
Historical and Cultural	Potentially Significant	Less than Significant
Geology and Soils	Potentially Significant	Less than Significant
Hazards	Potentially Significant	Less than Significant
Hydrology, Water Supply and Water Quality	Potentially Significant	Less than Significant
Land Use and Agricultural	Less than Significant	None required
Mineral	Less than Significant	None required
Noise	Potentially Significant	Less than Significant
Public Services and Utilities	Potentially Significant	Less than Significant
Transportation and Circulation	Potentially Significant	Less than Significant

As taken from the Gilbert EIR (City of Oakley 2007a). See report for full list of impacts and mitigation measure.

¹ Highest impact level presented here.

² Highest impact level presented here after implementation of mitigation measure.

³ Mitigated impact was only significant and unavoidable for air quality cumulative impacts.

1.2 Need for the Proposed Action

The proposed development needs a reliable source of water that would be able to serve 506 new homes on the 120-acre Gilbert Ranch property. The purpose of the Proposed Action is to include the Gilbert Property lands into Contra Costa WD's CVP service area so that Contra Costa WD can provide CVP water via Diablo WD for treatment prior to delivering to the new residential subdivision.

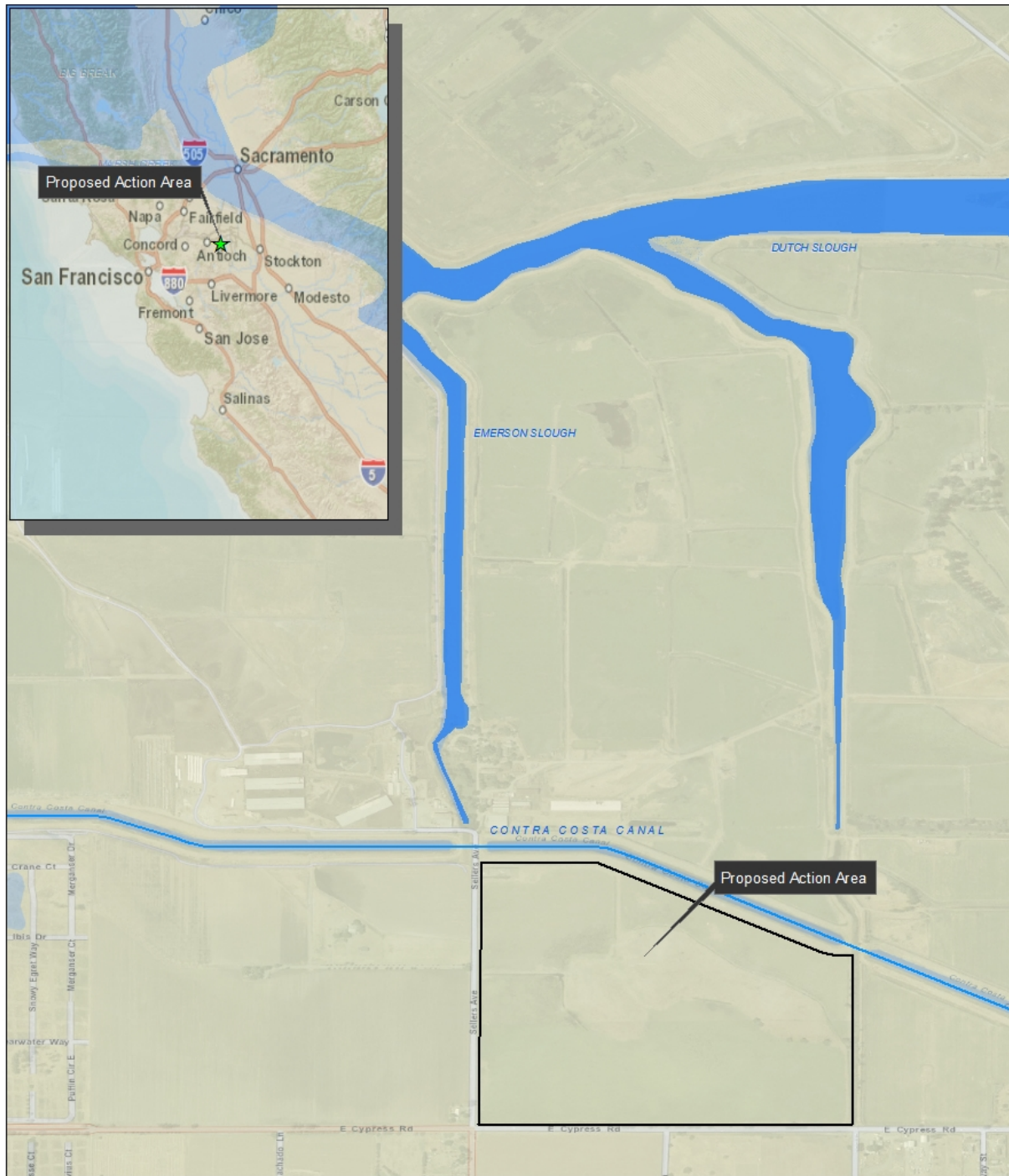


Figure 1. Proposed Action Area.

THIS PAGE LEFT INTENTIONALLY BLANK

Section 2 Alternatives Including the Proposed Action

This Environmental Assessment 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, Reclamation would not approve the inclusion of the Gilbert Property into Contra Costa WD's CVP service area and CVP water would not be provided to the proposed development. Currently, there are no other alternative sources of water that could provide adequate quality water supplies to the Gilbert Property. Therefore, under the No Action Alternative, the proposed development would not be constructed.

2.2 Proposed Action

Under the Proposed Action, Reclamation would approve the inclusion of the 120-acre Gilbert Property into Contra Costa WD's CVP service area. This would allow Contra Costa WD (via the Diablo WD) to deliver CVP water to the proposed development for M&I purposes.

Reclamation does not have land use authority over the development of the Gilbert Property. The City of Oakley is the authorizing entity for the development and it has already approved the project. The proposed Gilbert Property project includes a variety of residential types. The neighborhoods are integrated together into a comprehensive community through the use of traffic and pedestrian circulation, and a centrally located park surrounding a stormwater detention pond. The Gilbert Property includes an approximately 5± acre neighborhood park located in the center of the community and adjacent to an approximately 5± acre stormwater detention pond (Figure 2). The project also includes a trail system along the north side of Cypress Road, east side of Sellers Avenue, and along the northern and eastern boundary of the project site. This trail system will integrate into the larger City of Oakley trail system providing trail connections to and from the Delta Vista Middle School, the Iron House Elementary School, and the Marsh Creek regional trail network. The proposed project includes a total of approximately 17 acres of open space for the park, pond, and trail improvements.

The infrastructure systems necessary to serve the proposed project will be constructed and includes a perimeter levee, storm drainage, wastewater, potable water, dry utilities, and roadways. The levee improvements will involve approximately 1.38 acres of off-site work on Reclamation land along the north side of the site, and 4.50 acres of off-site road improvement along Cypress Road and Sellers Avenue.

Contra Costa WD, acting on behalf of Reclamation, will grant an encroachment permit to facilitate the construction of a portion of the levee surrounding the Gilbert Property adjacent to the Reclamation right-of-way for the Contra Costa Canal. The levee is designed to provide flood protection for the planned residential subdivision project and will be built to a minimum elevation of 10 feet, providing 3 feet of freeboard protection. The proposed levee will be consistent with the Federal Emergency Management Agency (FEMA), U.S. Army Corps of Engineers, and State of California urban standard levee specifications.

The primary access to the proposed project will be provided by a signalized intersection on Cypress Road at the middle of the project frontage. A secondary access will be provided on Sellers Avenue. The project will include a network of internal streets providing circulation throughout the project site and to and from the access points. The proposed improvements on Cypress Road include constructing two westbound lanes, a striped median with dedicated turn lanes, and one new eastbound lane. These improvements will be completed along the project frontage of Cypress Road. The proposed improvements on Sellers Avenue will include the construction of a four lane street with a landscaped median from Cypress Road to the project entrance. Transitions will be constructed to the adjacent roadway at the ends of the proposed improvements of Cypress Road and Sellers Avenue.

Utility systems installed throughout the project site will include storm drainage, wastewater, potable water, electrical, natural gas and telecommunications. The proposed utility improvements include a stormwater detention pond with a storm drain pump station and force main connecting to the existing outfall discharging runoff to the Emerson Slough. There will be a network of storm drain collection pipelines discharging to the central pond. A sanitary sewer lift station would be located within the neighborhood park. This station would be connected to a network of sanitary sewer collection pipelines that will then connect and discharge to the existing force main located in Cypress Road via connecting to the regional pump station within the adjacent Emerson Ranch project (City of Oakley 2010). A potable water distribution network would be installed to a network of pipelines and fire hydrants. The potable water system will connect to the existing pipeline in Cypress Road. A network of dry utility systems, including electrical, natural gas and telecommunications will be installed in a joint trench throughout the project site. These systems will connect to existing facilities in Cypress Road and Sellers Avenue.

Construction is expected to begin in 2017 and is expected to continue through 2020.

7

2.2.1 Permitting for the Proposed Action

The Developer has received a Clean Water Act Section 401 Water Quality Certification from the Central Valley Water Quality Control Board (Appendix A). Also, the Developer is in the process of obtaining a National Pollutant Discharge Elimination System (NPDES) general construction permit (General Permit) from the Regional Water Quality Control Board and a Clean Water Act Section 404 Regional General Permit 1 from the U.S. Army Corps of Engineers. The Developer will not move forward with the project until the permits are received.

The Developer shall comply with all terms and conditions of the above permits.

2.2.1 Environmental Commitments

The Developer shall implement the following environmental protection measures to reduce environmental consequences associated with the Proposed Action (Table 2). Environmental consequences for resource areas assume the measures specified would be fully implemented. Copies of all Table 2 required reports and monitoring shall be submitted to Reclamation.

Table 2. Environmental Protection Measures and Commitments.

Resource	Protection Measure
Air Quality/Global Climate Change	The Developer shall comply with all feasible measures recommended by the Bay Area Air Quality Management District to reduce emissions during project construction and operation (City of Oakley 2007a, b).
Biological Resources	The Developer shall comply with all the requirements and commitments of the East Contra Costa County Habitat Conservation Plan/National Community Conservation Plan (HCP/NCCP).
Cultural Resources	If cultural resources are discovered during construction, the post-review discoveries procedures at 36 CFR § 800.13(b) shall be followed.
Water Resources	An erosion control plan shall be implemented to control erosion during construction.
Water Resources	The Developer shall comply with permits regarding management of stormwater runoff.
Water Resources	CVP water may only be served within areas that are within the CVP Place of Use.

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 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment and determined that the Proposed Action did not have the potential to cause direct, indirect, or cumulative adverse effects to the resources listed in Table 3.

Table 3. Resources Eliminated from Further Analysis.

Resource	Reason Eliminated
Environmental Justice	The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations.
Indian Sacred Sites	The Proposed Action would not limit access to ceremonial use of Indian Sacred Sites on federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites. Therefore, there would be no impacts to Indian Sacred Sites as a result of the Proposed Action.
Indian Trust Assets	The Proposed Action would not impact Indian Trust Assets as there are none in the Proposed Action area. The nearest Indian Trust Asset is approximately 34.63 miles from the Proposed Action area.
Socioeconomics	The Proposed Action would have beneficial impacts on socioeconomic resources because the proposed development would create new jobs and provide Contra Costa WD increased revenue from facility and Contra Costa Canal lining fees. In addition, the City of Oakley and Contra Costa County would receive increased tax revenue.

3.2 Air Quality

Section 176 (C) of the Clean Air Act (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 required under Section 110 (a) of the Federal Clean Air Act (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 State Implementation Plan'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 State Implementation Plan before the action is taken.

On November 30, 1993, the Environmental Protection Agency (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 air 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.

3.2.1 Affected Environment

The Proposed Action area lies within the San Francisco Bay Area (Bay Area) Air Basin under the jurisdiction of the Bay Area Air Quality Management District. The air pollutants of greatest concern in the Bay Area Air Basin are carbon monoxide (CO), ozone, ozone precursors (such as reactive organic gases [ROG], volatile organic compounds [VOC], or nitrogen oxide [NO_x]), inhalable particulate matter between 2.5 and 10 microns in diameter (PM₁₀) and particulate matter less than 2.5 microns in diameter (PM_{2.5}) (Bay Area Air Quality Management District 2010).

The Bay Area Air Basin has reached Federal and State attainment status for CO, nitrogen dioxide, and sulfur dioxide, and neither are in attainment for ozone or PM_{2.5}, as shown in Table 4. Also, the Bay Area Air Basin has reached Federal attainment status for PM₁₀ but not for the State standards. There are no established standards for nitrogen oxides (NO_x); however, they do contribute to nitrogen dioxide standards and ozone precursors (Bay Area Air Quality Management District 2015a). For a list of current established criteria air pollution thresholds for the Bay Area Air Quality Management District, please see Table 5.

Table 4. Proposed Action Area Air Quality Attainment Status.

Pollutant	California Attainment Status	National Attainment Status
Ozone	Nonattainment	Nonattainment
carbon monoxide	Attainment	Attainment
nitrogen dioxide	Attainment	Attainment
sulfur dioxide	Attainment	Attainment
PM ₁₀	Nonattainment	Attainment
PM _{2.5}	Nonattainment	Nonattainment

Source: San Francisco Bay Area Air Basin <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>. Accessed December 2016.

3.2.2 Environmental Consequences

No Action

Under the No Action Alternative, there would be no impact to regional air quality, as existing conditions would continue.

Proposed Action

Although there would be no direct air quality impacts from approving the inclusion of the Gilbert Property into the Contra Costa WD service area, the development of a new subdivision would result in short-term, localized air pollutant emissions during construction. There would also be long-term emissions from the new subdivision, from vehicle traffic as well as miscellaneous residential sources (lawnmowers, house repainting, waste disposal, wastewater treatment, etc.).

Air quality impacts due to construction and operational activities related to the Gilbert Property development were analyzed and mitigation measures were prescribed in the Gilbert EIR (City of Oakley 2007a). The California Emission Estimator Model (CalEEMod) (version 2013.2.2) software was used to estimate short-term (construction) and long-term (operation) emissions as a result of the development of the Proposed Action. As shown in Table 5, construction and operation of the Proposed Action has been estimated to emit less than the *de minimis* thresholds for ROG, NO_x, PM₁₀, and PM_{2.5}, therefore, a federal general conformity analysis report is not required.

Table 5. Estimated Criteria Air Pollutant Emissions.

Emission Type ¹	ROG (tons/year)	NO _x (tons/year)	PM ₁₀ (tons/year)	PM _{2.5} (tons/year)
Construction	4.0	7.4	0.35	0.32
Operational	7.5	7.0	0.50	0.52
<i>De minimis</i> thresholds ²	15	15	15	15 ³

Source: CalEEMOD version 2013.2.2 for 506 single-family residential units in Contra Costa County.

1 Air Pollutant: ROG = reactive organic gases; NO_x = nitrogen oxide; PM_{2.5} = fine particulate matter of 2.5 micrometers or less; PM₁₀ = particulate matter between 2.5 and 10 micrometers in diameter or less.

2 Source: Bay Area Air Quality Management District's adopted thresholds of significant effect for construction emissions of criteria air pollutants (*de minimis*) 2015b.

3 Per Bay Area Air Quality Management District (2015b), 1999 Thresholds are to be used but no thresholds established for PM_{2.5}. Instead relying on current guidance, Bay Area Air Quality Management District 2012.

Cumulative Impacts

Air quality in the region is impaired but gradually improving as a result of regulatory changes, improvements in technology, and adoption of operational practices to reduce criteria air pollutant emissions and fugitive dust. It is expected that this overall trend of gradual improvement would continue in the future due to additional innovation and controls on emission sources.

As described above, construction and operation emissions of the proposed development are expected to be less than the Bay Area Air Quality Management District's thresholds of significant effect. However, in an effort to minimize potential cumulative impacts to the Bay Area Air Basin in associated with the Proposed Action, the Developer would incorporate measures pursuant to the Bay Area Air Quality Management District guidance (See Table 2). These include, but will not be limited to, such measures as using energy-efficient appliances, restricting the types of fireplaces which may be installed, and incorporating design features which encourage travel on foot, by bicycle, or transit. As such, the proposed development would not have cumulative adverse impacts on air quality.

3.3 Biological Resources

Moore Biological Consultants requested a species list from the U.S. Fish and Wildlife Service (Service) at <http://ecos.fws.gov/ipac/>, on May 25, 2016 (Service 2016). Reclamation further queried the California Department of Fish and Wildlife California Natural Diversity Database (CNDDB) for records of protected species within 10 miles of the construction area associated with the Proposed Action (CNDDB 2016). A summary table (Table 6) was created from the Service species list, CNDDB records, and additional information within Reclamation's files. The remainder of the information from this section was taken from the Planning Survey Report

that was prepared for the Developer for compliance with the East Contra Costa County HCP/NCCP (Moore Biological Consultants 2016), and a report addressing the potential for wetlands or other waters under the jurisdiction of the U.S. Army Corps of Engineers (Moore Biological Consultants 2015).

3.3.1 Affected Environment

The project area is about 126 acres in size, of which 3.23 acres are currently developed. It has 121.00 acres of annual grassland. Historically, the annual grassland was irrigated pasture, but irrigation stopped almost a decade ago. Some cattle grazing has occurred in more recent years. The grassland is dominated by several grass and forb species which are not native to the area.

Aquatic habitat in the project area consists of 0.83 acres of a constructed drainage ditch along the east edge of the site and is a tributary to Little Dutch Slough, 0.14 total acres of seasonal wetlands (two created wetlands that are 0.12 acres and 0.02 acres), 0.58 acres of channel (a relatively large agricultural ditch) along the north edge of the site, and 0.10 acres of smaller agricultural ditches. Neither of the seasonal wetlands are vernal pools; they were both created by agricultural operations. Along the east edge of the site, there are some Fremont cottonwood (*Populus fremontii*) trees, which are over 50 feet tall. Other tree species on the property include willows (*Salix* spp.), black walnuts (*Juglans hindsii*), common fig (*Ficus carica*), and some ornamental trees.

The project site provides habitat for three migratory bird species (all covered by the HCP/NCCP): the Western Burrowing Owl (*Athene cunicularia*), Swainson's Hawk (*Buteo swainsoni*), and Golden Eagle (*Aquila chrysaetos*). A pair of burrowing owls was seen on the site in 2015, and there is a nearby record for Swainson's Hawk from 2005 (CNDDB 2016). No Swainson's Hawks have been recorded nesting on the property, and no Swainson's Hawks were observed during nesting season field surveys in 2015 and 2016. The only potential nest trees for Swainson's Hawks in the site are the Fremont cottonwoods along the east edge of the site. There are no Golden Eagle records for the site, but eagles could forage in the grassland habitat and also use the cottonwood trees. The small size of the parcel and continued urbanization of the general Oakley area makes Golden Eagle nesting unlikely.

The seasonal wetlands provide marginal habitat for vernal pool invertebrates: vernal pool fairy shrimp (*Branchinecta lynchi*), longhorn fairy shrimp (*B. longiantenna*), and vernal pool tadpole shrimp (*Lepidurus packardii*). Protocol-level surveys for protected shrimp were completed during Fall 2015 through 2016, with negative findings (i.e. no listed shrimp were found) (Helm 2016).

Giant garter snake (*Thamnophis gigas*) could use the relatively large agricultural ditch along the north edge of the site, the constructed drainage ditch along the east edge of the site, and the Contra Costa Canal, as well as uplands within 200 feet or so of these aquatic areas. However, there are no records of giant garter snake in the project vicinity.

A survey for the HCP/NCCP special-status plants that use annual grassland habitat was conducted in April 2015, during the flowering period. No special-status plants were found. The annual grassland habitat is dominated by non-native species and would not be expected to harbor special-status species.

Table 6. Federally Listed Species That May Occur In Or Near The Area.

Species	Status ¹	Effects ²	Occurrence in the Study Area ³
AMPHIBIANS			
California red-legged frog (<i>Rana draytonii</i>)	T, X	NE	Absent. No individuals or habitat in Proposed Action area.
California tiger salamander (<i>Ambystoma californiense</i>)	T, X	NE	Absent. No individuals or habitat in Proposed Action area.
FISH			
Central Valley steelhead (<i>Oncorhynchus mykiss</i>) (NMFS)	T, X	NE	Absent. No natural waterways within the species' range will be affected by the Proposed Action.
delta smelt (<i>Hypomesus transpacificus</i>)	T, X	NE	Absent. No natural waterways within the species' range will be affected by the Proposed Action.
Sacramento River winter-run chinook salmon (<i>Oncorhynchus tshawytscha</i>)	E, X	NE	Absent. No natural waterways within the species' range will be affected by the Proposed Action.
INVERTEBRATES			
Conservancy fairy shrimp (<i>Branchinecta conservatio</i>)	E, X		Absent. Protocol-level surveys (Helm 2016) yielded negative results.
longhorn fairy shrimp (<i>Branchinecta longiantenna</i>)	E, X	NE	Absent. Protocol-level surveys (Helm 2016) yielded negative results.
valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	T, X	NE	Absent. No elderberry shrubs in Proposed Action area.
vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	T, X	NE	Absent. Protocol-level surveys (Helm 2016) yielded negative results.
vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	E, X	NE	Absent. Protocol-level surveys (Helm 2016) yielded negative results.
PLANTS			
Antioch Dune evening-primrose (<i>Oenothera deltoides</i> ssp. <i>howellii</i>)	E, X	NE	Absent. No individuals or habitat in Proposed Action area.
REPTILES			
Alameda whipsnake (<i>Masticophis lateralis euryxanthus</i>)	T, X	NE	Absent. Chaparral habitat is lacking in the Proposed Action area.
giant garter snake (<i>Thamnophis gigas</i>)	T	NE	Possible. Marginal habitat is present.

1 Status= Listing of Federal special status species

E: Federally-listed as endangered

T: Federally-listed as threatened

X: Critical Habitat designated for this species

2 Effects = Effect determination

NE: No Effect from the Proposed Action to federally listed species

3 Definition Of Occurrence Indicators

Absent: Species not recorded in study area and habitat requirements not met

Possible: Species not recorded in study area but potentially suitable habitat present

There is no critical habitat within the project area.

3.3.2 Environmental Consequences

No Action

If no action were taken, the property would remain in use for cattle grazing, and development would not occur until an alternative water source was identified. There would be no new impacts to habitat or wildlife.

Proposed Action

Development of the project site would impact suitable breeding and foraging habitat for the Western Burrowing Owl and may also affect Swainson's Hawks and Golden Eagles. The Contra Costa Canal and the constructed drainage ditch along the east edge of the site would not be impacted by the project, but adjacent uplands that could be used by hibernating giant garter snakes could be. All 0.56 acres of channel along the north edge of the site would be filled and the adjacent uplands would be impacted, both of which are considered giant garter snake habitat. Appropriate measures would be implemented as required by the HCP/NCCP, which would ensure compliance with the Endangered Species Act (ESA), and completely avoid any take of migratory birds (as defined by the Migratory Bird Treaty Act). Payment of fees by the Developer into the HCP/NCCP would help to fund acquisition, protection, and management of habitat that would help to compensate for impacts to the species' habitat.

The East Contra Costa County Habitat Conservancy has approved the Planning Survey Report for the project, and on May 26, 2016, Reclamation requested concurrence from the Service that the proposed Gilbert Property project is in compliance with the ESA through the HCP/NCCP process. On August 1, 2016, the Service agreed with Reclamation's understanding that the Proposed Action was a covered activity, and concurred with Reclamation's determination.

Cumulative Impacts

There are other actions in the area that could cause cumulative effects when combined with the Proposed Action. They are as follows:

- Contra Costa WD plans in 2017 and 2018, with the assistance of the Department of Water Resources (DWR) grant funding as well as Developer and Contra Costa WD ratepayer funding, to encase the Contra Costa Canal segments north of the Gilbert parcel (Segment 3) as well as a portion (estimated to be 50% or more) of the Burroughs Parcel (Segment 4) in a pipeline. Ultimately the entire unlined Contra Costa Canal will be placed in a pipeline.
- The Dutch Slough Restoration Project would restore wetland and upland habitats and provide public access to a 1,166-acre property owned by the DWR. Construction on 2/3rds of this site (near Emerson and Gilbert) are expected to commence as early as 2017.

There are numerous proposed and approved residential subdivisions and land development projects in the area. Reclamation has approved multiple boundary changes to include lands into Contra Costa WD's service area. Each proposed inclusion and development project undergoes separate environmental reviews and appropriate consultations in accordance with applicable laws, regulations, and permits. Measures are imposed to avoid or offset the loss and decline of habitats, fish, wildlife, and plants from these land development projects. Contra Costa WD is required to follow similar conditions when it implements the Contra Costa Canal Encasement project. In addition, the nearby Dutch Slough Restoration Project would increase the quality of habitat for biological species in the long term. Furthermore, the HCP/NCCP has been expressly developed and designed to minimize the cumulative impacts from development in the eastern portion of the county.

3.4 Cultural Resources

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the National Historic Preservation Act (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 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.

3.4.1 Affected Environment

An APE was defined for the proposed project to include the approximately 120-acre Gilbert Property subject to the inclusion and the 1.38 acres along the Contra Costa Canal that will be used for levee improvement, for a total APE of 121.39 acres. The U.S. Army Corps of Engineers will need to issue an authorization under Section 404 of the Clean Water Act (33 U.S.C. § 1344) for the development. Reclamation and the U.S. Army Corps of Engineers coordinated on the Project and, as a result, on November 17, 2015, the U.S. Army Corps of Engineers designated Reclamation lead Federal agency for NHPA Section 106 compliance efforts.

Identification of Historic Properties

As part of the Section 106 process, efforts to identify historic properties, a prehistoric and historic site record and literature search, archival research, field surveys, Native American and tribal consultation, and archaeological testing were completed and documented in a cultural resources report (Basin Research Associates 2014). Within the APE, no prehistoric archaeological sites were identified, but two historic-era cultural resources were identified: the Dutch Slough Rural Historic Landscape and a segment of the Contra Costa Canal; a Reclamation CVP facility constructed in 1937.

The Dutch Slough Rural Historic Landscape was previously determined eligible for inclusion in the National Register under Criterion A as a rare surviving dairy landscape in the San Francisco Bay Area. The boundary of the Dutch Slough Rural Historic Landscape encompass the Gilbert Property, but no identification of contributing/non-contributing resources on the property had previously been completed. As part of this undertaking, the building remnants and landscape features within the current APE were surveyed, recorded, and evaluated as part of the Dutch

Slough Rural Historic Landscape. Reclamation determined, with SHPO consensus, that none of the building remnants were contributing components, but that the landscape features within the APE were contributing to the eligibility of the Dutch Slough Rural Historic Landscape.

The Contra Costa Canal, the first canal built as part of the CVP, is located adjacent to the northern boundary of the Gilbert Property. The 46-mile long Contra Costa Canal was previously determined eligible for inclusion on the National Register at the state and local level under Criterion A for its association with the CVP. A previously proposed undertaking by Contra Costa WD (the Contra Costa Canal Encasement project) proposed encasement of the first 4 miles of the Contra Costa Canal, including the area adjacent to the Gilbert Property, and was determined to be an adverse effect to the Contra Costa Canal. Mitigation-level documentation was completed by Reclamation in 2006 for that undertaking.

3.4.2 Environmental Consequences

No Action

Under the No Action Alternative, Reclamation would not approve the inclusion and there would be no Federal undertaking or action requiring Section 106 or National Environmental Policy Act (NEPA) compliance. The No Action Alternative would result in no impacts to cultural resources.

Proposed Action

Reclamation applied the criteria of adverse effect to the two historic properties in the APE, the Contra Costa Canal and portion of the Dutch Slough Rural Historic Landscape. The portion of the Contra Costa Canal within the project APE is located along the northern boundary where levee work will be implemented. None of the proposed work on or immediately adjacent to the Contra Costa Canal will affect any of the characteristics that make it eligible for the National Register.

As a number of landscape features on the Gilbert property were found to contribute to the eligibility of the Dutch Slough Rural Historic Landscape and will need to be removed, Reclamation determined, with SHPO concurrence, that the implementation of the proposed project would constitute an adverse effect pursuant to 36 CFR §800.5(d)(2) (Appendix B). Reclamation, the U.S. Army Corps of Engineers, and the SHPO executed a memorandum of agreement (MOA) on January 31, 2017 that governs the implementation of the undertaking and the resolution of adverse effects resulting from the proposed project (Appendix C). The execution and fulfillment of the stipulations of the MOA will show that Reclamation has taken into account the effects of this undertaking on historic properties in compliance with Section 106. Reclamation's undertaking may not proceed until the MOA is executed and implemented.

Reclamation's consent to include the Gilbert Property lands into Contra Costa WD's boundary would allow the planned project to proceed. The land disturbing activities could also result in indirect impacts to cultural resources if undiscovered archaeological materials are unearthed. If archaeological materials are uncovered during grading or construction activities, earthwork in the immediate area of these materials shall be stopped. The City of Oakley shall be notified within 24 hours and a certified archaeologist shall be retained by the Developer to evaluate the significance of the find and suggest appropriate mitigation, if necessary. Further consultation

with the SHPO may be required if additional resources are identified during project implementation.

Cumulative Impacts

The ongoing development of agricultural lands in eastern Contra Costa County has the potential to result in cumulative impacts to significant cultural resources eligible for the National Register, assuming such properties are present. Any future residential developments that require Reclamation approval would be subject to separate cultural resources Section 106 reviews, and consultations as required. In such cases where significant cultural resources (i.e., historic properties) would be impacted by Reclamation action, such impacts would be mitigated or otherwise resolved through the Section 106 process.

3.5 Global Climate Change

3.5.1 Affected Environment

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 2014a).

Gases that trap heat in the atmosphere are often called greenhouse gases. Some Greenhouse gases, such as carbon dioxide (CO₂), occur naturally and are emitted to the atmosphere through natural processes and human activities. Other greenhouse gases (e.g., fluorinated gases) are created and emitted solely through human activities. The principal greenhouse gases that enter the atmosphere because of human activities are: CO₂, methane (CH₄), nitrous oxide, and fluorinated gasses (EPA 2014a).

During the past century humans have substantially added to the amount of greenhouse gases 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 2014b).

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 greenhouse gases emissions. CARB is further directed to set a greenhouse gases emission limit, based on 1990 levels, to be achieved by 2020.

In addition, the EPA has issued regulatory actions under the Clean Air Act as well as other statutory authorities to address climate change issues (EPA 2014c). In 2009, the EPA issued a

rule (40 CFR Part 98) for mandatory reporting of greenhouse gases by large source emitters and suppliers that emit 25,000 metric tons or more of greenhouse gases [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 2014c).

3.5.2 Environmental Consequences

No Action

Under the No Action Alternative, Reclamation would not approve the inclusion and development of the Gilbert Property would not occur. Therefore, there would be no additional greenhouse gas emissions beyond baseline conditions.

Proposed Action

The inclusion of Gilbert Property into Contra Costa's service area, and subsequent water delivery to the development would generate no greenhouse gas emissions. However, based on the CalEEMod estimates for the proposed Gilbert Property, CO_{2e} emissions are 825 metric tons for all years of construction, and annual operations are 6,845 metric tons at buildout.

A single project-level threshold of significant effect for greenhouse gases has not been adopted by the Bay Area Air Quality Management District. In the absence of a project-level numerical threshold, local planning agencies and the California Attorney General's Office have recommended green-building construction measures and transportation measures (AGO 2010).

The City of Oakley has approved the development (City of Oakley 2007b), and the proposed development incorporates several features recommended by the California State Attorney General's Office to reduce emissions. These include the mixed-use nature of the development, proposed landscaping features, and construction to energy-efficient building standards. In combination with the measures described in the air quality section above, these would reduce greenhouse gas emissions due to construction and operation of the development.

Cumulative Impacts

While the emissions from one project would not adversely affect the global climate, cumulative greenhouse gas emissions from multiple projects and sources throughout the world could result in an adverse impact with respect to climate change. However, greenhouse gas control strategies continue to develop over time, through regulation and technological advances to minimize potential impacts to global climate.

3.6 Land Use

3.6.1 Affected Environment

The proposed Gilbert Property project is located in the City of Oakley, where land use policies are established in the City's General Plan and Zoning Code. The City of Oakley's General Plan foresees conversion of the area to full residential development, with some commercial development (City of Oakley 2002). The proposed Gilbert Property project is also subject to the East Contra Costa County HCP/NCCP, issued in October 2006.

The current land use within the Gilbert Property is agricultural, with the vast majority of the project site consisting of pasture for cattle grazing. Several drainage ditches were constructed throughout the site to control the flow of water during irrigation. In addition, there are some abandoned buildings and structures including a trailer and several outbuildings.

The proposed Gilbert Property project site is bounded by the Emerson Ranch property, the Cypress Grove project, Delta Vista Middle School, and Iron House Elementary School to the west, Cypress Road to the south, and the Contra Costa Canal to the north and east, which separates the project site from the open space acreage to the north. A 55-acre portion of land immediately to the north of the Contra Costa Canal and the project site is planned to be developed by the City of Oakley into a community park.

3.6.2 Environmental Consequences

No Action

Under the No Action Alternative, Reclamation would not approve the inclusion and development of the Gilbert Property would not occur. Therefore, the No Action Alternative would result in no impacts to land resources.

Proposed Action

Under the Proposed Action, Reclamation would approve the inclusion of the Gilbert Property project into Contra Costa WD's CVP service area and allow Contra Costa WD (via Diablo WD) to supply CVP water to the Gilbert Property.

The proposed Gilbert Property project would have an overall density of 4.21 dwelling units/acre. While the density of the project would be greater than surrounding rural residential uses, it would be consistent with the densities specified in City of Oakley's General Plan and the densities of other residential developments to the west, including the Cypress Grove subdivision and other subdivisions in the vicinity.

This change in land use would be consistent with the City of Oakley's General Plan, as approved by Contra Costa County (City of Oakley 2002). The Proposed Action would not facilitate unplanned growth or land use changes, or conflict with established land uses; therefore, there would be no adverse impacts to land use in this area as a result of the Proposed Action.

Cumulative Impacts

The proposed Gilbert Property project, along with all known projects in the City of Oakley, would change the intensity of land uses in the City's Planning Area. However, the General Plan designates this area for urban development (City of Oakley 2002). Furthermore, the General Plan anticipates this growth.

Hotchkiss Tract and Bethel Island – City of Oakley and Contra Costa County There are numerous major residential subdivision developments in the area including Delta Coves on Bethel Island (partially constructed, but no constructed homes as of November 2016). On Hotchkiss Tract, proposed housing developments within Contra Costa County includes Spinnaker Cove (partially constructed, but not occupied), and within the City of Oakley Summer

Lakes South and North (South nearly 100 percent construction, North pending), Emerson Ranch (under construction), Cypress Preserve (seeking permits), Gilbert and Baldocchi parcels (Table 7). Spinnaker Cove, Gilbert and the Cypress Preserve require CVP Inclusion review approval before Contra Costa WD and Diablo WD can provide water service. The estimated development timeline for the above homes is between 2016 and 2030. The Cypress Preserve and Emerson Ranch project include some commercial development. Two public schools are planned within the Cypress Preserve Project area.

Table 7. Major Residential Subdivision in the Immediate Area.

Subdivision	Estimated Number of Housing Units
Delta Coves on Bethel Island	560
Summer Lakes South	630
Summer Lakes North	813
Emerson Ranch	576
Cypress Preserve	2,400
Gilbert parcels	506
Spinnaker Cove	91
Baldocchi parcels	100

All developments proposed and constructed within the City are reviewed for consistency with citywide land use controls and development standards during the course of the project review and approval process. Therefore the land use controls and development standards presently in use by the City of Oakley has previously undergone environmental review to address cumulative land use impacts due to new development.

3.7 Transportation

3.7.1 Affected Environment

A variety of transportation facilities serve the project area. Existing roads in the vicinity include State Route 4/Main Street, Cypress Road, Sellers Avenue, Knightsen Avenue, Laurel Road, and Delta Road. There are railroad tracks used by Amtrak and freight trains located to the west of the project site that are crossed by East Cypress Road. Public transit service is provided by Tri-Delta Transit bus routes, which transport people to nearby cities and connect the City of Oakley to the Pittsburg/Bay Point Bay Area Rapid Transit station.

3.7.2 Environmental Consequences

No Action

Under the No Action Alternative, the development of the proposed Gilbert Property project would not occur. Transportation conditions would stay the same as existing conditions.

Proposed Action

The proposed Gilbert Property project would cause construction-related traffic increases. Within a 24-month period, a maximum of approximately 800 truck trips per day would be needed during the peak construction period (City of Oakley 2010). In addition, during peak construction, as many as 250 construction worker vehicles could be present on-site, as well as 10 to 15 trucks and automobiles at a given time for deliveries, visits and other miscellaneous short-term needs. A

Traffic Control Plan identifying measures such as construction worker parking, additional street sweeping, and traffic flaggers, would be prepared to decrease congestion caused by anticipated construction-related traffic.

Operation of the Gilbert Property project would cause increased traffic volumes in the area. The development is estimated to generate about 4,900 vehicle trips per day. To analyze the potential impacts on vehicular traffic in the area, a Traffic Impact Analysis was conducted (City of Oakley 2007a). The study found impacts related to site access and circulation, emergency vehicle access, and adequate parking would be minimal. However, the proposed development would result in increased traffic in the area, which could impact transportation at both signalized and unsignalized intersections. Because Main Street provides the primary access to regional transportation facilities like State Route 4, most of the expected additional traffic resulting in an unacceptable level-of-service² from the Gilbert Property project would be added to State Route 4/Main Street. Also, an unsignalized intersection could experience increased levels of traffic (unstable flow or operation) on East Cypress Road at Knightsen Avenue.

The General Plan identifies several roadway and transit goals and policies that have been adopted to ensure that the transportation system of the City of Oakley will have adequate capacity to serve planned growth, such as the proposed Gilbert Property project. These goals and policies are intended to safely and efficiently meet the transportation needs of all economic and social segments of the City of Oakley and provide for the transport of goods and services within the City. Funded major improvements to the traffic network include the State Route 4 bypass, connecting Laurel Road to Sellers Avenue, and improvement to Sellers Avenues between Cypress Road and Laurel Road. Facilities such as sidewalks and trails would also be incorporated into the development to encourage pedestrian and bicycle travel.

Cumulative Impacts

The proposed Gilbert Property project, along with other proposed and planned construction projects in the area, would increase short-term traffic and congestion in the City's Planning Area and nearby unincorporated areas. It is possible that construction periods for some of these projects could overlap, creating a potential for cumulative impacts. The Traffic Control Plan for the proposed development would take into account the potential for overlapping construction periods and conflicting construction traffic to minimize those impacts.

In addition to short-term construction traffic, the proposed development is also anticipated to generate traffic long-term. However, this additional traffic has been accounted for in the City's General Plan, and future improvements to the area's roadway network are planned to accommodate the additional vehicles to minimize potential impacts.

² According to City and County standards.

3.8 Water Resources

3.8.1 Affected Environment

Water Supply

Contra Costa WD is a federal CVP contractor that diverts their CVP water supplies directly from the Sacramento-San Joaquin Delta (Delta). They also divert water from the Delta under their own water rights. Diverted water can either be directly conveyed to their M&I users, or diverted to storage in Los Vaqueros Reservoir for later use. Contra Costa WD receives up to 195,000 acre-feet of CVP water from Reclamation primarily through the Contra Costa Canal and receives water from other sources; however, in dry years virtually 100 percent of its water comes from the CVP.

Contra Costa WD's service area encompasses most of central and northeastern Contra Costa County, a total area of more than 140,000 acres. Contra Costa WD serves an estimated population of 450,000 and provides water to major municipal customers including: Diablo WD (Oakley) and the Cities of Antioch, Brentwood, Pittsburg, Golden State Water Company (Bay Point) and Martinez, each of which distribute water to their customers.

Water was pumped from Emerson Slough for agricultural purposes on Gilbert Property to support cattle grazing, however those operations have not been active for a number of years. The project site is not currently connected to the City of Oakley's water system. Water in the City of Oakley is supplied by Diablo Water WD, which receives its primary water supply from the Contra Costa WD. Diablo WD also supplements Contra Costa WD water with groundwater from wells during summer months (high demands) and to enhance flexibility for cost-effective operations of their systems.

Water Quality

The drainage pattern on the project site has historically been maintained by a conventional agricultural drainage system. Stormwater and irrigation return flow is conveyed along a series of shallow ditches. The site generally drains from south to north.

Potential sources of water pollution on the site include eroded sediment and organic waste produced by cattle. Surface soils samples were collected and analyzed for arsenic, cadmium, lead, mercury, and organochlorine pesticides. Results from all surface soil samples were below the residential environmental screening levels published by the San Francisco Regional Water Quality Control Board.

An unlined portion of the Contra Costa Canal is located immediately adjacent and north of the Gilbert parcel. The Contra Costa Canal in this location is planned to be encased starting in 2017.

3.8.2 Environmental Consequences

No Action

Under the No Action Alternative, the development of the proposed Gilbert Property project would not occur. Water could continue to be pumped from Emerson Slough for agricultural purposes. Therefore, existing water conditions would be the same.

Proposed Action

The Diablo WD prepared a Water Supply Assessment for the proposed Gilbert Property project. The Water Supply Assessment indicated that the proposed project was accounted for in Diablo WD projections, and that the Diablo WD has enough water to serve current and future customers within its service area during normal year, single dry year, and multiple dry year conditions (Diablo WD 2011).

The Water Supply Assessment was based on the assumption that the proposed Gilbert Property project would include 506 residential units, and an approximately three-acre park. Based on these assumptions and water demand factors of 525 gallons per day (GPD) per dwelling unit for single-family residential uses, and 1,450 GPD per acre for park uses, the Water Supply Assessment estimated that the project would demand approximately 304.7 acre-feet per year.

The components of the proposed Gilbert Property project, as approved by the City, include 506 residential units, and approximately 10 acres of park and stormwater detention pond areas. Based on the demand rates used by the Diablo WD for the Water Supply Assessment, the projected water demand for the proposed Gilbert Property project is currently estimated to be approximately 302 acre-feet per year, which is about 3 acre-feet per year less than what was estimated and evaluated in the Water Supply Assessment. As a result, the conclusions in the Water Supply Assessment are still applicable, as Diablo WD would have sufficient water supply to meet projected demand for the proposed project.

In summary, the water needed to serve the proposed Gilbert Property project could be supplied through existing CVP supplies that are allocated to the Contra Costa WD under its contract with Reclamation. No additional water would be diverted from rivers or reservoirs.

Water Quality During construction, the Developer would obtain a National Pollutant Discharge Elimination System (NPDES) general construction permit (General Permit) from the Regional Water Quality Control Board. As part of the requirements of this permit, the Developer would prepare and implement a Stormwater Pollution Prevention Plan. Compliance with the General Permit would help prevent sediment from leaving the site during construction, thus preventing impacts to water quality in surrounding waterways during construction.

The Contra Costa Canal borders the project site to the north. Due to the proximity of the waterway to the planned residential properties on the project site, stormwater runoff generated from roofs, roadways, and other new impervious surfaces could potentially affect Contra Costa WD's drinking water within the unlined Contra Costa Canal. Because the groundwater table in this area is very shallow, contaminants from the residential subdivision that enter the ground can interact with the shallow groundwater that generally flows north towards the Delta through the unlined portion of the canal.

Contra Costa WD is in the process of encasing the Contra Costa Canal, including the portion of the canal adjacent to the Gilbert Property. Encasement of the Contra Costa Canal adjacent to the Gilbert parcel would reduce the likelihood of water quality impacts occurring in the Contra Costa Canal due to the development.

Drainage from the project site could impact water quality in Emerson Slough if stormwater collected from the streets within the development were directly discharged to the Slough via the pump located at the stormwater pond (City of Oakley 2007a). However, the planned project stormwater detention pond (Pond) would provide volume-based treatment control and additional treatment for runoff prior to it leaving the site. Flow-based treatment controls include bioretention areas, bioswales, and measures prescribed in the General Permit. These measures would be implemented as part of the planned development (City of Oakley 2007a). In addition, the storage of the Pond would be designed to accommodate runoff from large storm events. As a result, operation of the proposed Gilbert Property project Pond would adequately treat urban runoff before it is discharged into Emerson Slough.

Cumulative Impacts

Pursuant to the General Plan, the development of the proposed Gilbert Property project and buildout of the City of Oakley would increase the demand for water supply in Oakley (City of Oakley 2002). The Diablo WD supplies water to the majority of the City of Oakley. The Diablo WD Master Plan is based on the buildout of the City of Oakley's General Plan (2011). Because the development of the proposed Gilbert Property project is consistent with the buildout anticipated by the General Plan and has been included in the Diablo WD Water Supply Assessment, the incremental increase in demand associated with the Gilbert Property project is covered by the City of Oakley's long-term water supply plan.

Water Quality Development of the proposed Gilbert Property project and buildout of the City of Oakley pursuant to the General Plan could increase the sediment load in area waterways. In addition, stormwater runoff generated in urbanized areas could contribute a higher amount of pollutants flowing into adjoining channels. As such, water quality in the region could be affected on a short-term and long-term basis. However, the project's 5-acre Pond would filter out pollutants before the runoff is discharged into Emerson Slough or local ground water supplies (City of Oakley 2007a). Therefore, the project would not contribute urban pollutants to the area waterways and would not add to cumulative effects on water quality.

Section 4 Consultation and Coordination

4.1 Public Review Period

Reclamation provides the public with an opportunity to comment on the Draft FONSI and Draft EA during a 30-day public review period. No comments were received.

4.2 List of Agencies Consulted

Reclamation has consulted with the following regarding the Proposed Action:

- State Historic Preservation Officer
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service

Reclamation is coordinating on the Proposed Action with the Contra Costa WD and the City of Oakley.

4.3 Construction General Permit

The proposed Gilbert Property project will require coordination with the State of California to obtain a Construction General Permit, which includes the preparation of a Storm Water Pollution Prevention Plan. This permit will also be coordinated with the corresponding Regional Water Quality Control Board.

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

Section 301 of the Clean Water Act (33 U.S.C. § 1311) prohibits the discharge of any pollutants into waters of the United States, except as allowed by permit issued pursuant to various sections of the Clean Water Act.

Section 401

Section 401 of the Clean Water Act (33 U.S.C. § 1341) requires any applicant for a Regional General Permit 1 from the U.S. Army Corps of Engineers (see Section 404, below) 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.

On September 30, 2016, the Developer obtained a Section 401 Water Quality Certification from the Regional Water Quality Control Board.

Section 402

Section 402 of the Clean Water Act (33 U.S.C. § 1341) establishes the NPDES to regulate point source discharges of pollutants into waters of the United States. A NPDES permit sets specific discharge limits for point sources discharging pollutants into waters of the United States and establishes monitoring and reporting requirements, as well as special conditions.

The Developer will obtain a Section 402 NPDES General Permit from the Regional Water Quality Control Board prior to initiation of construction.

Section 404

Section 404 of the Clean Water Act (33 U.S.C. § 1344) authorizes the U.S. Army Corps of Engineers to issue permits to regulate the discharge of “dredged or fill materials into waters of the United States”. The Developer contacted the US Army Corps of Engineers October 20, 2015 to request a Preliminary Jurisdictional Determination for the Gilbert Property project. On February 1, 2016, the U.S. Army Corps of Engineers concurred with the amount and location of wetlands and other water bodies on the site.

The Developer is in the process of obtaining coverage under Regional General Permit 1, and will need to receive the permit prior to initiation of construction.

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

Section 7 of the ESA 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 proposed project is located within, and would comply with, the East Contra Costa County HCP/NCCP. Reclamation has determined all affects associated with the project are covered in the HCP/NCCP, and therefore, the proposed project would have no effect on federally protected species or designated critical habitats beyond those covered by the HCP/NCCP. On May 26, 2016, Reclamation requested concurrence that the Gilbert Property project is in compliance with the ESA through the HCP/NCCP process. On August 1, 2016, the Service confirmed the Proposed Action was a covered activity, and concurred with Reclamation’s determination.

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

The National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 et seq.), requires that federal agencies give the Advisory Council on Historic Preservation an opportunity to comment on the effects of an undertaking on historic properties, properties that are eligible for inclusion in the National Register. The 36 CFR Part 800 regulations implement Section 106 of the NHPA.

Section 106 of the NHPA requires federal agencies to consider the effects of federal undertakings on historic properties, properties determined eligible for inclusion in the National

Register. Compliance with Section 106 follows a series of steps that are designed to identify interested parties, determine the area of potential effects, conduct cultural resource inventories, determine if historic properties are present within the area of potential effects, and assess effects on any identified historic properties.

Reclamation consulted with SHPO on July 8, 2015, and received concurrence on a finding of adverse effect on August 10, 2015 (Appendix B). Reclamation, the U.S. Army Corps of Engineers, and the SHPO executed the MOA on January 31, 2017 (Appendix C).

THIS PAGE LEFT INTENTIONALLY BLANK

Section 5 References

AGO (Attorney General's Office). 2010. Project Level Mitigation Measures. Addressing Climate Change at the Project Level. California Attorney General's Office. Available at: http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf.

Basin Research Associates. 2014. Historic Property Survey Report (Revised) - Gilbert Property Project. Written for Castle Companies and Assigns, and Contra Costa Water District. March 2014.

Bay Area Air Quality Management District. 2010. Final Bay Area 2010 Clean Air Plan. Adopted September 15, 2010. Website: <http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans>.

Bay Area Air Quality Management District. 2015a. Air Quality Standards and Attainment Status. <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>. Accessed December 20, 2016.

Bay Area Air Quality Management District. 2015b. 1999. Thresholds of Significance. California Environmental Quality Act Air Quality Guidelines. <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>. Accessed July 2016.

City of Oakley. 2002. Oakley 2020 General Plan Final Environmental Impact Report. SCH #2002042134. Prepared by Quad Knopf Inc. Oakley, CA. November.

City of Oakley. 2007a. Final and Draft Environmental Impact Report for the Gilbert Property. SCH# 2007012075. Prepared by Raney Planning & Management Inc. Sacramento, CA. September.

City of Oakley. 2007b. Filing of Notice of Determination for the Gilbert Property, Subdivision 9033 in Oakley. Signed by Contra Costa County November 15, 2007. Sacramento, CA.

City of Oakley. 2010. Emerson Property Final Environmental Impact Report. SCH #2007052073. Prepared by Raney Planning and Management, Inc. Sacramento, CA. August.

CNDDDB (California Natural Diversity Database). 2016. California Department of Fish and Wildlife's Natural Diversity Database, Version 3.1.1 RareFind 3. Last Updated May 2016.

Diablo WD. 2011. Final 2010 Urban Water Management Plan. June 2011. http://www.diablowater.org/documents/pdfs/DWD_Final_2010_UWMP_June_2011.pdf. Accessed: July 2016.

EPA (Environmental Protection Agency). 2009. Mandatory Reporting of Greenhouse Gases, Final Rule (40 CFR Parts 86, 87, 89 et al.) Federal Register. 74(209): 56260-56519.

EPA (Environmental Protection Agency). 2014a. Climate Change – Basic Information. Website: <http://www.epa.gov/climatechange/basicinfo.html>.

EPA (Environmental Protection Agency). 2014b. Climate Change – Science. Website: <http://www.epa.gov/climatechange/science/index.html>.

EPA (Environmental Protection Agency). 2014c. Climate Change – Regulatory Initiatives. Website: <http://www.epa.gov/climatechange/initiatives/index.html>.

Helm. 2016. Large Branchiopod Sampling at the Gilbert project (USFWS # 2016-TA-0061). Prepared for Moore Biological Consultants. April 2016.

Moore Biological Consultants. 2015. Routine Wetland Delineation. 120+/- Acre Gilbert Project. Contra Costa County, California. Prepared for DeNova Homes. November 2015.

Moore Biological Consultants. 2016. Application Form and Planning Survey Report to Comply with and Receive Coverage Under the East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan. Prepared for DeNova Homes. May 2016.