

Draft Programmatic Initial Study & Proposed Mitigated Negative Declaration CEQA Report

North Kern Water Storage District

Landowner Groundwater Recharge and Banking Project

Prepared for:

North Kern Water Storage District



July 2022

This page intentionally left blank.

Draft Programmatic Initial Study & Proposed Mitigated Negative Declaration CEQA Report

North Kern Water Storage District Landowner Groundwater Recharge and Banking Project

Prepared for:

North Kern Water Storage District
33380 Cawelo Avenue
Bakersfield, CA 93308

Contact:

Mr. David Hampton
General Manager
661-393-2696

Prepared by:

GEI Consultants
5901 Priestly Drive, Suite 301
Carlsbad, CA 92008

Contact:

Nicholas Tomera
Project Manager
760-795-1970

July 18, 2022

Project No. 2200298

This page intentionally left blank.

Table of Contents

1.0	Introduction.....	1-1
1.1	Purpose of the Initial Study	1-1
1.2	Summary of Findings	1-2
1.3	Document Organization	1-3
2.0	Project Description.....	2-1
2.1	Project Background	2-1
2.2	Project Overview and Objectives	2-1
2.3	Project Components.....	2-1
2.4	Project Requirements and Constraints.....	2-1
2.4.1	Use of Banked Water	2-1
2.4.2	Transport and Delivery of Water	2-1
2.4.3	Lands Available for Groundwater Recharge	2-2
2.4.4	District Compensation for Use of Landowner Facilities	2-2
	Surface Recharge Facilities	2-3
	Surface and Subsurface Recharge Facilities	2-4
2.5	Program Implementation	2-5
2.6	Construction	2-6
2.6.1	Surface Recharge Projects	2-6
2.6.2	Subsurface Recharge Projects.....	2-6
2.7	Operation and Maintenance	2-7
2.7.1	Surface Recharge Projects	2-7
2.7.2	Subsurface Recharge Projects.....	2-7
3.0	Environmental Checklist.....	3-1
3.1	Project Information	3-1
3.1.1	Environmental Factors Potentially Affected.....	3-2
3.1.2	Determination (to be completed and signed by the Lead Agency).....	3-3
3.2	Aesthetics.....	3-4
3.2.1	Environmental Setting	3-4
3.2.2	Discussion.....	3-5
3.3	Agriculture and Forestry Resources	3-6
3.3.1	Environmental Setting	3-7
3.3.2	Discussion.....	3-7
3.4	Air Quality.....	3-9
3.4.1	Environmental Setting	3-9
3.4.2	Discussion.....	3-13
3.5	Biological Resources.....	3-16
3.5.1	Environmental Setting	3-17
3.5.2	Discussion.....	3-18
	Special-status Plants.....	3-18
3.6	Cultural Resources.....	3-29
3.6.1	Environmental Setting	3-29

	Prehistoric Context.....	3-29
	Ethnographic Context.....	3-30
	Historic Context.....	3-30
3.6.2	Discussion.....	3-32
	Methods 3-32	
3.7	Energy.....	3-35
3.7.1	Environmental Setting	3-35
3.7.2	Discussion.....	3-35
3.8	Geology and Soils	3-37
3.8.1	Environmental Setting	3-38
3.8.2	Discussion.....	3-41
3.9	Greenhouse Gas Emissions.....	3-45
3.9.1	Environmental Setting	3-45
3.9.2	Discussion.....	3-46
3.10	Hazards and Hazardous Materials	3-47
3.10.1	Environmental Setting	3-48
3.10.2	Discussion.....	3-48
3.11	Hydrology and Water Quality	3-50
3.11.1	Environmental Setting	3-51
	Water Quality	3-51
	Groundwater Conditions	3-55
3.11.2	Discussion.....	3-57
3.12	Land Use and Planning.....	3-61
3.12.1	Environmental Setting	3-61
3.12.2	Discussion.....	3-61
3.13	Mineral Resources	3-62
3.13.1	Environmental Setting	3-62
3.13.2	Discussion.....	3-62
3.14	Noise.....	3-63
3.14.1	Environmental Setting	3-63
3.14.2	Discussion.....	3-64
3.15	Population and Housing	3-65
3.15.1	Environmental Setting	3-65
3.15.2	Discussion.....	3-65
3.16	Public Services.....	3-66
3.16.1	Environmental Setting	3-67
3.16.2	Discussion.....	3-67
3.17	Recreation.....	3-68
3.17.1	Environmental Setting	3-68
3.17.2	Discussion.....	3-68
3.18	Transportation	3-69
3.18.1	Environmental Setting	3-69
3.18.2	Discussion.....	3-69
3.19	Tribal Cultural Resources.....	3-71
3.19.1	Environmental Setting	3-71
3.19.2	Discussion.....	3-71
3.20	Utilities and Service Systems	3-73
3.20.1	Environmental Setting	3-73

3.20.2 Discussion.....	3-74
3.21 Wildfire	3-75
3.21.1 Environmental Setting	3-75
3.21.2 Discussion.....	3-76
3.22 Mandatory Findings of Significance	3-77
3.1.1 Discussion.....	3-77
4.0 References	4-1
5.0 Report Preparers	5-1

List of Tables

Table 2-1. Summary of Surface and Subsurface Recharge Facility Payments.....	2-3
Table 2-2. Existing Subsurface Recharge Facilities in North Kern Water Storage District.....	2-7
Table 3-1. Program Information	3-1
Table 3-2. Environmental Factors Potentially Affected	3-2
Table 3-3. Federal and California Ambient Air Quality Standards and Attainment Status.....	3-10
Table 3-4. Ambient Air Quality Monitoring Data Measured at the Bakersfield-California Avenue Monitoring Station.....	3-12
Table 3-5. Kern River Water Quality (2011 – 2021)	3-54
Table 3-6. Monitoring Well Network in North Kern	3-55

List of Figures

Figure 2-1. Regional Location Map	2-3
Figure 3-1. North Kern Subsidence Monitoring Network	3-40

List of Appendices

Appendix A Application for Proposed Projects
Appendix B CEQA Consistency Checklist for Landowner Groundwater Banking Projects
Appendix C Biological Resources Database Searches

This page intentionally left blank.

Abbreviations and Acronyms

AFY	Acre-feet per year
Basin Plan	Tulare Lake Basin
BMPs	Best Management Practices
C.A.A.Q.S.	California Ambient Air Quality Standards
Cal Fire	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
C.A.R.B.	California Air Resource Boards
CVRWQCB	Central Valley Regional Water Quality Control Board
cfs	cubic feet per second
County	Kern County
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFGF	California Fish and Game Code
cfs	cubic feet per second
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRHR	California Register of Historic Resources
CVP	Central Valley Project
C.O.	carbon monoxide
C.O.2.	carbon dioxide
District	North Kern Water Storage District
D.O.C.	Department of Conservation
DTSC	Department of Toxic Substance Control
DWR	Department of Water Resources (DWR)
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FKC	Friant-Kern Canal
GEI	GEI Consultants
GHG	greenhouse gases
GSA	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plan
HCP	Habitat Conservation Plan
HFCs	Hydrofluorocarbons
hp-hr	horsepower hours
IS/MND	Initial Study/Negative Declaration
JRP	JRP Historical Consulting Services
KGA	Kern Groundwater Authority
MAP	Management Area Plan
MCL	Maximum Contaminant Level
MLD	Most Likely Descendant
N.P.D.E.S.	National Pollutant Discharge Elimination System
N.A.A.Q.S.	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
North Kern	North Kern Water Storage District
NKWSD	North Kern Water Storage District
NRHP	National Register of Historic Places
O3	ozone
O&M	Operations and Maintenance

PFCs	Perfluorocarbons
PG&E	Pacific Gas and Electric
PM _{2.5}	particulate matter less than 2.5 microns in diameter
PM ₁₀	particulate matter less than 10 microns in diameter
Policy	North Kern Water Storage District-Landowner Groundwater Banking and Recharge Policy
ppm	parts per million
PRC	California Public Resource Code
Proposed Program	Landowner Groundwater Recharge and Banking Project
Scoping Plan	The Strategy for Achieving California's 2030 Greenhouse Gas Target
SDWIS	State Drinking Water Information System
SGMA	Sustainable Groundwater Management Act
SPAL	Small Project Analysis Level
S.J.V.A.B.	San Joaquin Valley Air Basin
S.J.V.A.P.C.D.	San Joaquin Valley Air Pollution Control District
SR	State Route
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resource Control Board
TCP	1,2,3-Trichloropropane
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
VMT	vehicles miles traveled
Water Board	State Water Resources Control Board

1.0 Introduction

The North Kern Water Storage District (North Kern or District) has prepared this Programmatic Initial Study/Mitigated Negative Declaration (IS/MND) in compliance with the California Environmental Quality Act (CEQA) to address the potentially significant environmental impacts of the proposed Landowner Groundwater Recharge and Banking Project (Proposed Program). The District is the lead agency under CEQA.

After the required public review of this document is complete, the District's Board of Directors will consider all Programmatic IS/MND comments received, the entirety of the administrative record for the Project, whether to adopt the proposed MND and a Mitigation Monitoring and Reporting Program and approve the Proposed Program.

1.1 Purpose of the Initial Study

This document is a Programmatic IS/MND prepared in accordance with CEQA (California Public Resources Code, Section 21000 et seq.) and the state CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations [CCR]). The purpose of this Programmatic IS/MND is to determine whether Proposed Program implementation would result in potentially significant or significant impacts on the physical environment.

A Programmatic IS/MND presents environmental analysis and substantial evidence in support of its conclusions regarding the significance of environmental impacts. Substantial evidence may include expert opinion based on facts, technical studies, or reasonable assumptions based on facts. A Programmatic IS/MND is neither intended nor required to include the level of detail provided in an Environmental Impact Report (EIR).

CEQA requires that all state and local government agencies consider the potentially significant and significant environmental impacts of projects they propose to carry out or over which they have discretionary authority, before implementing or approving those projects. The public agency that has the principal responsibility for carrying out or approving a proposed Programmatic IS/MND the lead agency for CEQA compliance (CEQA Guidelines, CCR Section 15367). The District has principal responsibility for carrying out the Proposed Program and is therefore the CEQA lead agency for this Programmatic IS/MND.

If there is substantial evidence (such as the findings of a Programmatic IS/MND) that the Proposed Program, either individually or cumulatively, may have a significant or potentially significant impact on the physical environment, the lead agency must prepare an EIR (CEQA Guidelines, CCR Section 15064[a]). If the Programmatic IS/MND concludes that impacts would be less than significant, or that mitigation measures committed to by the applicant would clearly reduce impacts to a less-than-significant level, a Negative Declaration or MND can be prepared.

The District has prepared this Programmatic IS/MND to evaluate the potential environmental impacts of the Proposed Program. The North Kern Landowner Banking Program fits within the description of CEQA Guidelines Section 15168 in that it is a series of actions that can be characterized as one large project and are related geographically as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways. North Kern has determined, through this Programmatic IS/MND, that the Proposed Program would not result in any significant project-related impacts which cannot be mitigated to a level of less-than-significant. Therefore, a Programmatic IS/MND has been prepared for this Proposed Program.

Later activities, i.e., specific landowner banking projects, which will be included in the Proposed Program must be examined in the light of the Programmatic IS/MND to determine whether an additional environmental document must be prepared. If a proposed project would have effects that were not examined in this Programmatic IS/MND, a new IS would need to be prepared leading to either an EIR or a Negative Declaration (CEQA Guidelines Section 15168(c)). Whether a later activity is within the scope of this Programmatic IS/MND is a factual question that North Kern will determine based on substantial evidence in the record. North Kern can approve subsequent activities as being within the scope of the program covered by the Programmatic IS/MND, then no new environmental document would be required (CEQA Guidelines Section 15168(c)).

North Kern will use a written checklist to document the evaluation of future specific landowner banking projects to determine whether the environmental effects of the project are within the scope of this Programmatic IS/MND. The proposed checklist is included in Appendix B. If North Kern determines that the specific landowner banking project is within the scope of this Programmatic IS/MND, then this Programmatic IS/MND can be used for the CEQA determination on that project. If not, additional CEQA review may be required. North Kern has incorporated feasible mitigation measures in this Programmatic IS/MND and also into later activities in the Proposed Program, as described in the Appendix B CEQA Checklist.

1.2 Summary of Findings

Chapter 3 of this document contains the analysis and discussion of potential environmental impacts of the Proposed Program. Based on the issues evaluated in that chapter, it was determined that the Proposed Program would result in no impacts on the following issue areas:

- Aesthetic
- Land Use and Planning
- Population and Housing
- Mineral Resources
- Public Services
- Recreation
- Transportation
- Utilities and Service System
- Wildfire

The Proposed Program would result in less-than-significant impacts on the following issue areas:

- Agriculture and Forestry Resources
- Energy
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Noise
- Tribal Cultural Resources

The Proposed Program would result in less-than-significant impacts *after* mitigation implementation on the following issue areas:

- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hydrology and Water Quality

1.3 Document Organization

This document is divided into five key sections:

Chapter 1, “Introduction,” describes the purpose of the Programmatic IS/MND, summarizes findings, and describes the organization of this IS.

Chapter 2, “Project Description,” describes the project location and background, project need and objectives, project characteristics, construction activities, project operations, and discretionary actions and approvals that may be required.

Chapter 3, “Environmental Checklist,” presents an analysis of environmental issues identified in the CEQA Environmental Checklist and determines whether project implementation would result in no impact, less-than-significant impact, less-than-significant impact with mitigation incorporated, potentially significant impact, or significant impact, on the physical environment in each issue area. Should any impacts be determined to be potentially significant or significant with mitigation incorporated, an EIR would be required. For the Proposed Program, however, mitigation measures have not been incorporated because there are no impacts beyond a less-than-significant level.

Chapter 4, “References,” lists the references used to prepare this IS.

Chapter 5, “Report Preparers,” identifies individuals who helped prepare or review this document.

This page intentionally left blank.

2.0 Project Description

2.1 Project Background

The North Kern Water Storage District is located in Kern County (County) in California's southern San Joaquin Valley (**Figure 2-1**). The District's service area includes approximately 60,000 acres of predominately agricultural land north of the City of Bakersfield, west of State Route (SR) 99, and east of the cities of Shafter and Wasco.

The District administers a conjunctive use project that consists of groundwater banking, recovery, and exchange programs to optimize water supplies. Groundwater banking facilities consist of approximately 1,726 acres of spreading ponds/recharge basins with a capacity to recharge up to 330,000 acre-feet per year (AFY). Most of the District's groundwater banking is associated with "in-District" operations; however, the District has maintained active water exchange and banking programs with District landowners, other districts, and third parties since the mid-1990s.

2.2 Project Overview and Objectives

The District has existing groundwater recharge assets and groundwater banking programs with other agency partners and landowners and desires to increase its recharge capacity by constructing additional facilities and by gaining access to non-district owned recharge facilities. The District's recharge capacity was developed for in-District purposes, primarily to regulate the District's highly variable Kern River water supplies, and these purposes will continue to have the highest priority. Because providing additional groundwater recharge will benefit the District's efforts to meet Sustainable Groundwater Management (SGMA) (Water Code § 10720 et seq.) goals, the District is considering adoption of a program to implement the North Kern Water Storage District-Landowner Groundwater Banking and Recharge Policy (the "Policy"). The Policy establishes the terms for landowner participation in the Proposed Program.

The purpose of the proposed Program is to expand groundwater recharge capacity within the District's boundaries to enhance groundwater resources for the benefit of the District, its landowners and water users, as well as the greater Kern County region.

The District and landowners recognize the importance of maximizing the importation of surface water into the district area for beneficial use by agriculture and to enhance sustainable groundwater management. Landowners desire to establish a groundwater banking account that provides a reliable source of water and the flexibility to use that supply to support their agricultural activities. To this end, the District desires to establish a joint landowner groundwater banking program to incentivize landowners to share their privately-owned recharge facilities to increase in-district recharge capacity. Potential sources of water available to recharge in shared facilities would be similar to surface water sources available to the District, including Kern River, Central Valley Project (CVP), and State Water Project (SWP). Groundwater banking would generally occur in wetter years when there would be surplus surface water supplies available.

The District will use its available recharge capacities under the terms of the Proposed Program for the following priorities:

- First, to regulate Kern River, Poso Creek, and other water supplies available directly to the District (such as CVP Friant Division Section 215 supplies) to support groundwater levels in the District for the benefit of District landowners.
- Second, to fulfill obligations under existing “high priority” water banking and exchange agreements.
- Third to fulfill obligations under future additional high priority water banking and exchange programs with third parties (including District landowners) that provide water supply and/or financial benefits to the District.
- Fourth, to fulfill obligations under existing “low priority” water banking and exchange agreements, and
- Fifth, to fulfill obligations under future “low priority” water banking and exchange agreements.

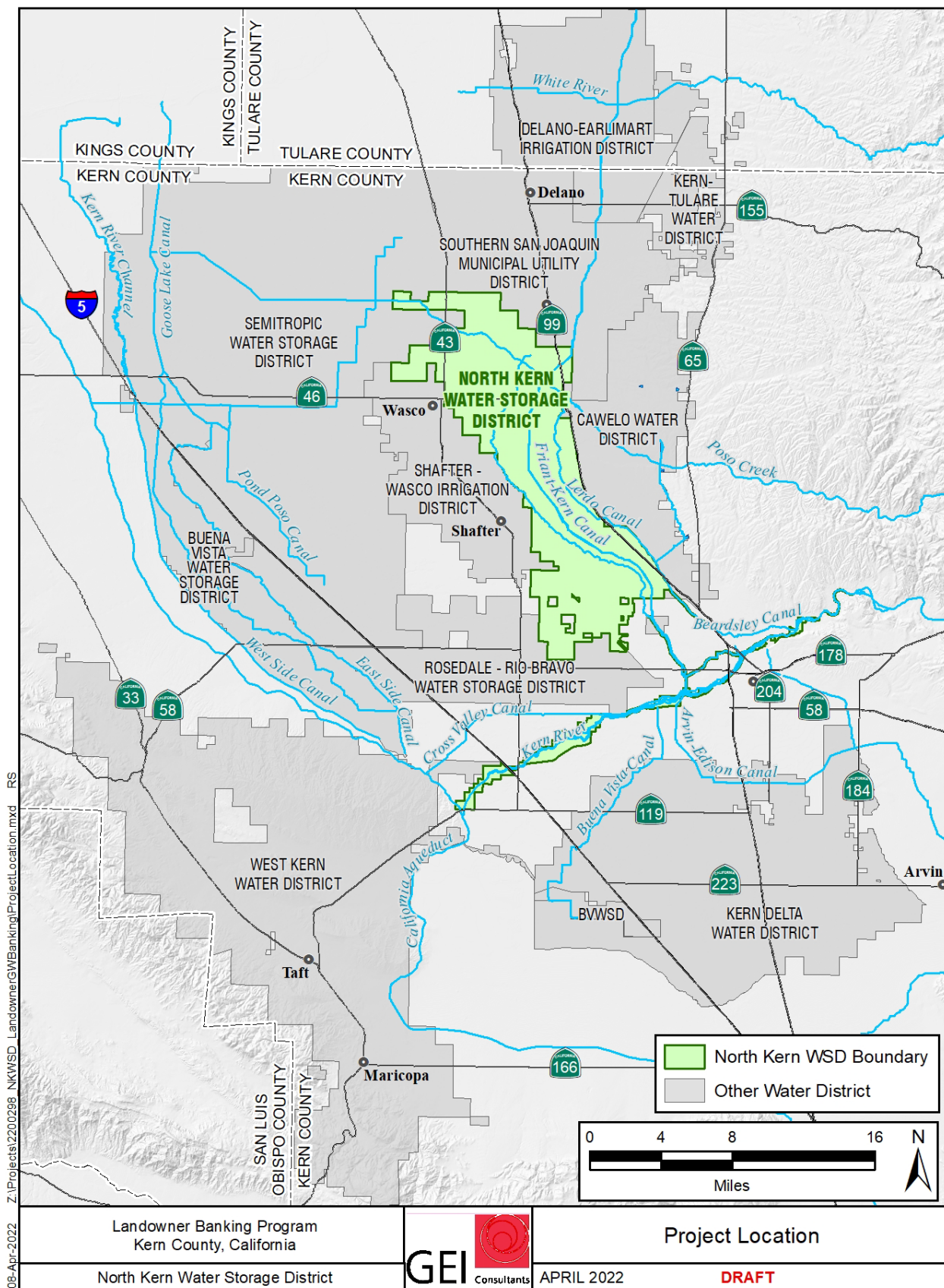


Figure 2-1. Regional Location Map

This page intentionally left blank.

2.3 Project Components

To achieve the goal of developing 200 cubic feet per second (cfs) of additional groundwater recharge capacity, the District desires to establish a joint District/Landowner groundwater banking program to incentivize landowners to share their privately-owned recharge facilities. Landowner facilities, with reasonable recharge performance will be accepted as program participants on a first come, first served basis. In the event total landowner interest exceeds the targeted additional capacity of 200 cfs, the District will determine participation based on a recharge suitability ranking study.

Landowner banking agreements would be established on a 10-year term, with landowners having the option to extend their agreements for an additional 5-year term with substantially equivalent provisions and conditions. Landowners will also have the option of further extensions of standing agreements for up to five additional 5-year terms (for a total of 35 years).

The District would contribute equitably to construction costs of new recharge facilities based on their recharge capacity. The District would also consider participation by existing recharge projects and would provide a District contribution comparable to that offered for new recharge facilities.

2.4 Project Requirements and Constraints

To protect groundwater quality, maintain groundwater levels, and support sustainability, the Proposed Program would operate under several constraints, as described below.

2.4.1 Use of Banked Water

Program participants will be provided annual compensation in the form of monetary payments and transfer of in-ground banked water from the District. Landowners may extract their banked water, or otherwise referred to as their groundwater credit, anywhere within the District boundary provided that any potential conveyance of landowner water through District facilities be approved by the District and be subordinate to District operations. Any credit transferred to a landowner as a result of the Proposed Program will not be water from the District's 1952 Agreement for Use of Water Rights.

Landowners may transfer groundwater credits existing in their accounts into any neighboring district whose boundary abuts the District's boundary, provided such transfers are in-ground transfers, are approved by the governing body of the neighboring district, are compliant with the SGMA and the provisions of any applicable Groundwater Sustainability Plans (GSPs), and all other legal or regulatory requirements.

2.4.2 Transport and Delivery of Water

In the case of landowner-owned surface water (non-District water) that is imported into the District and recharged in landowner's facilities, the landowner will retain 75 percent of the groundwater credits and the remaining 25 percent will be credited to the District. The landowner will be responsible for all costs and water losses associated with delivering surface water into the District.

Landowners may draw on groundwater credits from their accounts by extracting such water for beneficial use anywhere within District's boundaries; recovered landowner owner credits will be available for use outside of District's boundaries. The District is not obligated to extract groundwater on behalf of the landowner to draw on their groundwater credits. Any conveyance of recovered landowner groundwater through District facilities must be approved by the District in advance and will be subordinate to District's operations.

2.4.3 *Lands Available for Groundwater Recharge*

Out of the 200 cfs desired recharge capacity, subsurface recharge facilities for 55 cfs (821 acres) have already been constructed by landowners interested in participating in the Proposed Program. If all of these existing landowner-constructed recharge facilities apply for, and are accepted into entry into the Proposed Program, then additional new construction of recharge facilities for 145 cfs recharge capacity will be the District's goal. A maximum of 580 acres of surface facilities or 2,320 acres of subsurface facilities (or a combination of both) will be needed to meet the desired additional recharge capacity of 145 cfs.

Compensation will be allocated to participants regardless of District's use of landowner's facilities. A preliminary evaluation of potential recharge capacity and increased benefits to the District has been used to determine that program participants will be provided annual compensation in the form of monetary payments and groundwater credits as described below. On an annual basis, the District

will evaluate groundwater banking performance and determine if there is a need to revise formulas set forth for District cost contributions and groundwater credit shares or to provide other incentives to increase participation.

Surface Recharge Facilities

For surface recharge basins the District will pay landowners an Annual Fee for fallowed land occupied by a recharge facility for the benefit of eliminated agricultural demand. Land must remain fallow for the term of the agreement (minimum of 10 years) with no irrigation activities. The payment will be subject to an annual adjustment equal to the adjustment in the Consumer Price Index.

For each acre of land that a landowner removes from agricultural production to construct and operate new facilities or for existing facilities enrolled in the program, the District shall issue additional groundwater credit designated Fallowed Land Credit for the benefit of eliminated agricultural demand (**Table 2-1**). The District will also waive collection of the annual Base Service Charge for the property for so long as it has situated on it a surface facility available for District's use under the Proposed Program.

Table 2-1. Summary of Surface and Subsurface Recharge Facility Payments

Program Description	Surface Recharge	Subsurface Recharge
Compensation	Annual Fee per acre per year for fallowed land occupied by facility	Land is not fallowed
Groundwater Credit (estimated)	For each acre, 0.0027% of District's annual groundwater recharge and banking activities	For each acre, 0.000675% of District's annual groundwater recharge and banking activities
Fallowed Land Credit ¹	1.5 acre-feet per acre per year	Land is not fallowed

¹ Fallowed land credits can be used outside the District's boundaries

Program Description	Surface Recharge	Subsurface Recharge
Design and Construction	District will approve the project and design of the recharge ponds. Landowner will perform all work.	District will approve the project and landowner will perform all work
Operation and Maintenance	District is responsible for the operations and maintenance of the recharge ponds.	District is responsible for delivering recharge water to the landowner's turnout. The District will operate and maintain turnouts and is responsible for its pro-rata share of operations and maintenance (O&M) costs beyond the District's turnout. Landowners are responsible for all operations and maintenance and the landowner's share of O&M costs beyond District's turnout.

Surface and Subsurface Recharge Facilities

For all landowners participating in the Proposed Program, for each cfs of recharge capacity of the landowner's facilities, the District will issue groundwater credit to the landowner's groundwater credit account (*refer to Table 2-1*). These credits will apply whether or not the District actually uses the landowner's facilities at any given time.

To account for losses attributable to recharged groundwater migrating out of the District area, in the 8th year of each 10-year term, landowner groundwater balances will be reduced by 5 percent. At the end of any renewed 5-year term, account balances will be reduced by 3 percent.

In determining groundwater credits to be issued to individual landowners, District groundwater and banking activities under this program are those activities that establish groundwater storage or credit in North Kern's name. Landowner groundwater credit calculations transferred to or applied to landowner's groundwater credit account does not include water from the District's 1952 Agreement or any other water that is limited to use within the District boundary.

The groundwater credit calculation also does not include water that is banked within the District and credited to other third-parties. Landowner credits from District recharge and banking activities begin accrual once the District has deemed a landowner recharge facility to be complete.

Because of the District's contributions to landowner facilities, the District and landowner will have equal priority in landowner's recharge facility capacity with each having 50 percent recharge capacity. The District will maintain all groundwater bank account records, and all groundwater banking and transfer activities shall be coordinated with the District.

2.5 Program Implementation

Landowners wishing to participate in the Proposed Program will submit an application (Appendix A) to the District describing the proposed recharge facility size, location, design (surface or subsurface) and other particulars as the District may require. District staff will review the application and consider the potential environmental impacts. Proposed recharge projects found to meet the District's requirements will require Board of Directors approval.

The Proposed Program meets the definition of a program under the CEQA Guidelines, Section 15168(a), where the program consists of, "a series of actions that can be characterized as one large project and are related either: (1) Geographically, (2) A logical parts in the chain of contemplated actions, (3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways."

The CEQA Guidelines Section 15168(c)(4), regarding the use of a Programmatic CEQA document to authorize later activities, states that, "Where ... later activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were within the scope of the program EIR." The District has developed a checklist which will be used to determine whether the environmental effects of a specific landowner banking project is within the scope of this Programmatic IS/MND and Mitigated Negative Declaration (MND). The proposed CEQA Checklist is found in Appendix B.

The District will evaluate the information in the application to determine if the specific landowner banking project would have effects that were not examined in this Programmatic IS/MND. If the District can approve the landowner banking project as being within the scope of the project covered by this Programmatic IS/MND, then no new environmental document would be required. The District will make this determination based on substantial evidence in the record. Factors that the District may consider in making that determination include, but are not limited to, consistency of the landowner banking project with the type of allowable land use, overall planned density and building intensity, geographic area analyzed for environmental impacts, and covered infrastructure, as described in this Programmatic IS/MND. The District will incorporate feasible mitigation measures developed in this Programmatic IS/MND into landowner banking projects.

If the District determines the proposed landowner banking project is within the scope of this Programmatic IS/MND and MND, then the Programmatic IS/MND can be used for the CEQA determination on that project. If not, additional CEQA review may be required.

2.6 Construction

2.6.1 Surface Recharge Projects

Surface recharge projects typically consist of an excavated recharge pond, earthen berms, piped turnout and inlet structures, fencing, and gates.

For new surface recharge projects, prior to commencing construction, landowners will apply to the District with plans for constructing the project. The District will have the opportunity to collaborate on design and construction. Should the District not exercise this opportunity, there would be no construction activities, equipment uses, construction worker or maintenance worker truck trips associated with District's staff or District-employed contractors. However, should the District collaborate with the landowner on construction, the level of District activity would be determined on a case-by-case basis. In all cases, the District will approve the design before the project is approved.

In all cases, participating landowners would be required in the design and construction of surface recharge projects to consider, follow, and comply with all applicable state, federal, and local laws and regulations, including but not limited to those pertaining to environmental protection and the protection of endangered and threatened species and their habitat, and obtain any necessary approvals or permits.

The project application for surface recharge projects includes a CEQA checklist to assess potential environmental impacts, including potential construction impacts (new projects) and potential operational impacts (all projects).

2.6.2 Subsurface Recharge Projects

Subsurface recharge systems typically consist of a turnout from a District canal, sand media filter, pump, sump, subsurface manifold pipe, parallel subsurface perforated pipes, and sand/gravel drain envelope placed around perforated pipe.

For these projects the landowner will perform all work associated with design, construction, and O&M with the District not being directly involved in these activities. Participating landowners would be required to comply with all applicable state, federal, and local laws and regulations and to obtain any necessary approvals and permits, including those pertaining to environmental protection and the protection of endangered and threatened species and their habitat. Because the District would provide financial support for construction of new landowner projects and to compensate for the cost of constructing existing landowner projects, there is a nexus requiring the District to comply with CEQA although the District would have no involvement in design and construction. Therefore, the Proposed Program includes an application and CEQA checklist to assess potential environmental impacts.

2.7 Operation and Maintenance

2.7.1 Surface Recharge Projects

For surface recharge basins, the District is responsible for all operations and maintenance of surface recharge facilities, including all O&M costs, and delivering water to the basins. Landowners are responsible for any repairs or damage not related to normal O&M.

2.7.2 Subsurface Recharge Projects

For subsurface recharge systems, the District is responsible for delivering recharge water to the landowner's turnout. The District will operate and maintain turnouts and is responsible for its pro-rata share of O&M costs beyond the District's turnout. Landowners are responsible for all operations and maintenance and the landowner's share of O&M costs beyond District's turnout.

Four already-constructed subsurface recharge projects are proposed to be included in the Proposed Program. These recharge facilities are described in **Table 2-2**.

Table 2-2. Existing Subsurface Recharge Facilities in North Kern Water Storage District

Owner	Size (acres)	Capacity (cfs)	Parcel Number
Wonderful	100	5	APN 089-090-30
Wonderful	510	35	APN 060-110-47
Westchester	106	8	Southern portion of APN 073-260-13 and 073-260-12
DM Camp	105	7	Southern portion of APN 091-040-22

This page intentionally left blank.

3.0 Environmental Checklist

3.1 Project Information

Table 3-1. Program Information

#1. Project title:	Landowner Groundwater Recharge and Banking Project
#2. Lead agency name and address:	North Kern Water Storage District 33380 Cawelo Avenue Bakersfield, CA 93308
#3. Contact person and phone number:	Mr. David Hampton
#4. Project location:	The Proposed Program would be located within the District boundaries. The District is located in Kern County along the eastern side of California's southern San Joaquin Valley.
#5. Project sponsor's name and address:	See # 2, above.
#6. General plan designation:	Agriculture
#7. Zoning:	A (Exclusive Agriculture)
#8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)	Proposed development of a local Landowner recharge and banking project to provide Landowners within the District with a direct groundwater banking opportunity. The District may also bank District water in Landowner recharge facilities, where appropriate, within the project.
#9. Surrounding land uses and setting: Briefly describe the project's surroundings:	The surrounding land use is almost exclusively active agricultural land with scattered industrial uses.
#10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)	N/A

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See PRC Section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality.

3.1.1 Environmental Factors Potentially Affected

The environmental factors listed as “Yes” in the table below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

Table 3-2. Environmental Factors Potentially Affected

Environmental Factors	Yes or No?
Aesthetics	No
Agriculture and Forestry Resources	No
Air Quality	Yes
Biological Resources	Yes
Cultural Resources	Yes
Energy	No
Geology/Soils	Yes
Greenhouse Gas Emissions	No
Hazards and Hazardous Materials	No
Hydrology/Water Quality	Yes
Land Use/Planning	No
Mineral Resources	No
Noise	No
Population/Housing	No
Public Services	No
Recreation	No
Transportation	No
Tribal Cultural Resources	No
Utilities/Service Systems	No
Wildfire	No
Mandatory Findings of Significance	No

3.1.2 Determination (to be completed and signed by the Lead Agency)

On the basis of this initial evaluation:	Yes or No?
I find that the Proposed Program COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	No
I find that although the Proposed Program could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	Yes
I find that the Proposed Program MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	No
I find that the Proposed Program MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	No
I find that although the Proposed Program could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Proposed Program, nothing further is required.	No


Signature

Mr. David Hampton
Print Name

North Kern Water Storage District
Agency


Date

General Manager
Title

Evaluation of Environmental Impacts

3.2 Aesthetics

#1. AESTHETICS. Except as provided in PRC Section 21099, would the project:

#1 -a. Have a substantial adverse effect on a scenic vista?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#1 -b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#1 -c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#1 -d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.

3.2.1 Environmental Setting

The land use within and surrounding the Districts service boundary is primarily active agricultural land with scattered industrial and commercial uses. Properties eligible to be included in the Program would be properties which are formerly or currently used for commercial agriculture.

3.2.2 Discussion

a, b, c, d) Have a substantial adverse effect on a scenic vista? Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway? In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

There are no scenic vistas or State scenic highways located within the Districts boundary. The Proposed Program does not include any new developments which could have the potential to substantially adversely impact scenic vistas, damage scenic resources, or degrade existing visual character because any proposed landowner recharge basins would be constructed within existing agricultural lands away from existing scenic resources. Additionally, sub-surface recharge facilities would be installed belowground, therefore, they would not impact the visual quality of the area. Surface recharge basins may require the removal of orchards or row crops, however, the conversion of agricultural land to water recharge would not substantially alter the visual quality of the area given its rural nature. Recharge basins would not require any light sources; therefore, they would not create any new sources of light or glare. The Proposed Program would have **no impact** on visual resources.

3.3 Agriculture and Forestry Resources

#2. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

#2 -a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#2 -b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#2 -c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#2 -d. Result in the loss of forest land or conversion of forest land to non-forest use?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#2 -e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation	Have Less-than-Significant Impact?	Have No Impact? No.

conversion of forest land to non-forest use?

Incorporated?
No.

Yes.

3.3.1 Environmental Setting

The District supplies water for irrigation to approximately 60,000 acres of predominantly agricultural lands. Agricultural production within the District service area includes orchard, vineyards, and other crops. There are no lands designated as forest or timberlands within the District.

3.3.2 Discussion

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The Proposed Program would include future construction of landowner banking facilities. Sub-surface recharge facilities can be implemented beneath agricultural fields when replanting occurs, or before agricultural production begins, therefore, limiting the amount of active agricultural land that would be eliminated.

The Proposed Program would consist of a maximum of 580 acres of landowner banking facilities if all of the future recharge facilities are surface recharge, which would account for approximately 0.01 percent of total agricultural land in Kern County. Because the land would be considered fallow open space, it would not conflict with existing Williamson Act contracts.²

For subsurface recharge facilities, implementation of the Proposed Program would not convert farmland to non-farmland because those properties will continue to be used for agricultural production.

The Proposed Program would benefit agricultural resources by facilitating flexibility for groundwater recharge and banking by agricultural landowners, in anticipation of future agricultural water demands, and likely future groundwater pumping restrictions. The Proposed Program would have a less-than-significant impact.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

² As defined by the Kern County Agricultural Preserve Standard Uniform Rules (Form 505), compatible use on Williamson Act properties includes, "The erection, construction, alteration, operation, and maintenance of gas, electric, water, and communication utility facilities and similar public service facilities by corporations and companies under the jurisdiction of the Public Utilities Commission of the State of California and by public agencies." Because the District is a public agency that would construct, operate, and maintain the proposed Program, which is a water facility, the proposed Program is a compatible use consistent with the Williamson Act.

The District would not convert any land with an active Williamson Act contract to non-agriculture. Additionally, the Proposed Program would not require any rezoning since water storage/groundwater recharge facilities are an allowable use in land zoned as Exclusive Agriculture. Therefore, the Proposed Program would have **no impact**.

c, d) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? Result in the loss of forest land or conversion of forest land to non-forest use?

There are no forestlands or timberlands within the District service area. The Proposed Program would have **no impact**.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

See Question “a” above. Additionally, there is no forestland within the District boundary. The Proposed Program would have a **less-than-significant** impact.

.

3.4 Air Quality

#3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations. Would the project:

#3 -a. Conflict with or obstruct implementation of the applicable air quality plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.
#3 -b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.
#3 -c. Expose sensitive receptors to substantial pollutant concentrations?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#3 -d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.

3.4.1 Environmental Setting

The Proposed Program would be located in the San Joaquin Valley Air Basin (S.J.V.A.B.) within Kern County. The San Joaquin Air Pollution Control District (S.J.V.A.P.C.D.) is responsible for obtaining and maintaining air quality conditions in the County.

The federal Clean Air Act and California Clean Air Act required the U.S. Environmental Protection Agency (EPA) and California Air Resource Boards (C.A.R.B.) to establish health-based air quality standards at the federal and state levels. National Ambient Air Quality Standards (N.A.A.Q.S.) and California Ambient Air Quality Standards (C.A.A.Q.S.) were established for the following criteria pollutants: carbon monoxide, ozone (O₃), sulfur dioxide (S.O.₂), nitrogen dioxide, particulate matter less than 10 microns in diameter (PM₁₀), particulate matter less than 2.5 microns in diameter (PM_{2.5}), and lead. Areas of the state are designated as attainment, nonattainment, maintenance, or unclassified for the various pollutant standards according to the federal Clean Air Act and California Clean Air Act.

An “attainment” designation for an area signifies that pollutant concentrations did not violate the N.A.A.Q.S. or C.A.A.Q.S. for that pollutant in that area. A “nonattainment” designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as identified in the criteria. A “maintenance” designation indicated that the area previously categorized as nonattainment is currently categorized as attainment for the applicable pollutant; though the area must demonstrate continued attainment for a specific number of years before it can be re-designated as an attainment area. An “unclassified” designation signifies that data does not support either an attainment or a nonattainment status. The EPA established N.A.A.Q.S. in 1971 for six air pollution constituents. States have the option to add other pollutants, to require more stringent compliance, or to include different exposure periods. C.A.A.Q.S. and N.A.A.Q.S. are listed in **Table 3-3**.

Table 3-3. Federal and California Ambient Air Quality Standards and Attainment Status.

Pollutant	Averaging Time	California Standards Concentration	Federal Primary Standards Concentration
Ozone (O ₃)	8-hour	0.070 parts per million. (137 micrograms per cubic meter)	0.070 parts per million (137 micrograms per cubic meter) (see Note #1)
Ozone (O ₃)	1-hour	0.09 parts per million. (180 micrograms per cubic meter)	(None; see Note #2)
Respirable Particulate Matter (PM ₁₀)	24-hour	50 micrograms per cubic meter	150 micrograms per cubic meter
	Annual Arithmetic Mean	20 micrograms per cubic meter	(None)
Fine Particulate Matter (PM _{2.5})	24-hour	(None)	35 micrograms per cubic meter
	Annual Average	12 micrograms per cubic meters	12 micrograms per cubic meter
Carbon Monoxide	8-hour	9 parts per million (10 milligrams per cubic meter)	9 parts per million (10 milligrams per cubic meter)
Carbon Monoxide	1-hour	20 parts per million (23 milligrams per cubic meter)	35 parts per million (40 micrograms per cubic meter)
Nitrogen Dioxide	Annual Average	0.03 parts per million (57 micrograms per cubic meters)	0.053 parts per million (100 micrograms per cubic meters)
Nitrogen Dioxide	1-hour	0.18 parts per million (339 micrograms per cubic meters)	0.100 parts per million (188 micrograms per cubic meters)
Lead	30-day Average	1.5 micrograms per cubic meters	(None)
Lead	Rolling 3-Month Average	(None)	0.15 micrograms per cubic meter

Pollutant	Averaging Time	California Standards Concentration	Federal Primary Standards Concentration
Lead	Quarterly Average	(None)	1.5 micrograms per cubic meter
Sulfur Dioxide	24-hour	0.04 parts per million (105 micrograms per cubic meter)	0.14 parts per million (for certain areas)
Sulfur Dioxide	3-hour	(None)	(None)
Sulfur Dioxide	1-hour	0.25 parts per million (655 micrograms per cubic meter)	0.075 parts per million (196 micrograms per cubic meter)
Sulfates	24-hour	25 micrograms per cubic meter	No federal standard
Hydrogen Sulfide	1-hour	0.03 parts per million (42 micrograms per cubic meter)	No federal standard
Vinyl Chloride	24-hour	0.01 parts per million (26 micrograms per cubic meter)	No federal standard

Notes:

#1. On October 1, 2015, the national 8-hour ozone (O₃) primary and secondary standards were lowered from 0.075 to 0.070 parts per million.

#2. 1-Hour O₃ standard revoked effective June 15, 2005, although some areas have continuing obligations under that standard.

Source: C.A.R.B. 2016

Under the N.A.A.Q.S., the County is designated as nonattainment for 8-hour O₃, and PM_{2.5}, and attainment/unclassified for PM₁₀, C.O., N.O.₂, S.O.₂, lead, and sulfates (C.A.R.B. 2018). Under C.A.A.Q.S., the County is designated unclassified for all criteria pollutants (C.A.R.B. 2018).

The area's air quality monitoring network provides information on ambient concentrations of air pollutants in the S.J.V.A.B. S.J.V.A.P.C.D. operates several monitoring stations in Kern County, air quality data was obtained from the Bakersfield-California Avenue station. **Table 3-4** compares a 5-year summary of the highest annual criteria air pollutant emissions collected at this station with applicable C.A.A.Q.S., which are more stringent than the corresponding N.A.A.Q.S. Due to the regional nature of these pollutants, O₃, PM_{2.5}, and PM₁₀ are expected to be representative of the Project site. As indicated in **Table 3-4**, O₃, PM_{2.5}, and PM₁₀ standards have been exceeded over the past 5 years.

Table 3-4. Ambient Air Quality Monitoring Data Measured at the Bakersfield-California Avenue Monitoring Station.

Pollutant Standards, 1-Hour Ozone (O₃)	2016	2017	2018	2019	2020
Maximum 1-hour concentration (parts per million)	0.092*	0.122*	0.107*	0.097*	0.110
Days Exceeding ^a C.A.A.Q.S. 1-hour (>0.09 parts per million)	0	11	8	2	3
Pollutant Standards, 8-Hour Ozone (O₃)	2016	2017	2018	2019	2020
National maximum 8-hour concentration (parts per million).	0.085*	0.104*	0.098*	0.088*	0.098
State max. 8-hour concentration (parts per million).	0.086*	0.104*	0.098*	0.088*	0.098
Days Exceeding ^a N.A.A.Q.S. 8-hour. (>0.075 parts per million.) (See note #1.)	30	47	34	11	11
Days Exceeding ^a C.A.A.Q.S. 8-hour. (>0.070 parts per million.) (See note #1.)	63	87	64	28	25
Pollutant Standards, Particulate Matter (PM₁₀)	2016	2017	2018	2019	2020
National max. 24-hour concentration (micrograms per cubic meter).	90.9	138.0	136.1	116.3	193.8
State max. 24-hour concentration (micrograms per cubic meter).	92.2*	143.6*	142.0*	125.9*	196.8
State max. 3-year average concentration (micrograms per cubic meter).	44	44	43	43	39
State annual average concentration (micrograms per cubic meter).	40.9	42.6	-	39.0	-
Days Exceeding ^a N.A.A.Q.S. 24-hour (>150 micrograms per cubic meter).	0	0	0	0	-
Days Exceeding ^a C.A.A.Q.S. 24-hour (>50 micrograms per cubic meter).	121.4	98.7	-	108.1	-
Pollutant Standards, Particulate Matter (PM_{2.5})	2016	2017	2018	2019	2020
National max. 24-hour concentration (micrograms per cubic meter).	66.4*	101.8*	98.5*	59.1*	150.7
State max. 24-hour concentration (micrograms per cubic meter).	66.4	101.8	98.5	59.1	159.7
State annual average concentration (micrograms per cubic meter).	15.9*	15.9*	15.6*	11.4	19.7
Days Exceeding ^a a N.A.A.Q.S. 24-hour (>35 micrograms per cubic meter).	25.5	30.2	40.3	12.3	46.4

Notes:

* = Values in excess of applicable standard.

- = There was insufficient (or no) data available to determine the value.

2019 is the latest year of data available as of preparation of this Chapter.

#1. An exceedance is not necessarily a violation. Sources: C.A.R.B. 2020.

3.4.2 Discussion

a, b) Conflict with or obstruct implementation of the applicable air quality plan? Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard?

The Proposed Program would include the future construction of surface and sub-surface recharge basins which would require the use of diesel-powered vehicles and equipment that would generate criteria pollutants.

The S.J.V.A.P.C.D. has published guidance on assessing construction projects to determine if they fall below the Small Project Analysis Level (SPAL) threshold (S.J.V.A.P.C.D. 2012) of 18,000 horsepower hours (hp-hr) per day. Any proposed future landowner banking facility would require completion of the Appendix B “CEQA Checklist” which requires evaluation against the SPAL. If construction of future landowner banking facilities would have emissions under the SPAL threshold, then they would be considered to have a **less-than-significant** impact, however, if future landowner banking facilities were above the threshold, they would have **potentially significant** impact and additional CEQA would be required.

Additionally, any future landowner banking facilities that are greater than 1 acre in size would be required to obtain the following permits: State Water Resources Control Board (Water Board) National Pollutant Discharge Elimination System (N.P.D.E.S.) for general construction activity (Order 2009-0009 DWQ as amended by Order 2012-0006-DWQ), and Stormwater Pollution Prevention Plan (SWPPP). A Dust Control Prevention Plan would also need to be submitted for future landowner banking facilities which include 5 acres or more of disturbed surface area (S.J.V.A.P.C.D. 2007). Best Management Practices (BMPs) would be outlined in these permits.

Compliance with SPAL would result in a less-than-significant impact. However, S.J.V.A.P.C.D. requires all construction projects to implement Regulation VIII “Fugitive PM₁₀ Prohibitions Best Management Practices.” Therefore, the following mitigation measure would be implemented during all future construction.

Mitigation Measure AQ-1: District Regulation VIII Fugitive PM₁₀ Prohibitions Best Management Practices

All projects are subject to S.J.V.A.P.C.D. rules and regulations in effect at the time of construction. Control of fugitive dust is required by S.J.V.A.P.C.D. Regulation VIII. The District shall implement or require its contractor to implement all of the following measures as identified by S.J.V.A.P.C.D.:

- Apply water to unpaved surfaces and areas
- Use non-toxic chemical or organic dust suppressants on unpaved roads and traffic areas
- Limit or reduce vehicle speed on unpaved roads and traffic areas
- Maintain areas in a stabilized condition by restricting vehicle access

- Install wind barriers
- During high winds, cease outdoor activities that disturb the soil
- Keep bulk materials sufficiently wet when handling
- Store and hand material in a three-sided structure
- When storing bulk material, apply water to the surface or cover the stage pile with a tarp
- Do not overload haul trucks. Overlanded trucks are likely to spill bulk materials
- Cover haul trucks with a tarp or other suitable cover. Or, wet the top of the load enough to limit visible dust emissions
- Clean the interior of cargo compartments on emptied haul trucks prior to leaving the site
- Prevent track-out by installing a track-out control device
- Clean up track-out at least once a day. If along a busy road or highway, clean up track-out immediately
- Monitor dust-generating activities and implement appropriate measures for maximum dust control

Implementation of Mitigation Measure AQ-1, acquisition of a N.P.D.E.S. construction activity general permit and SWPPP and submitting a Dust Control Prevention Plan may be required. Each landowner banking facility would be evaluated on a project-by-project basis. Therefore, this impact is considered **less than significant**.

c) Expose sensitive receptors to substantial pollutant concentrations?

Some members of the population are especially sensitive to emissions of air pollutants and should be given special consideration during the evaluation of the Proposed Program air quality impacts. These people include children, senior citizens, and persons with pre-existing respiratory or cardiovascular illnesses, and athletes and other who engage in frequent exercise, especially outdoors. Sensitive receptors include schools, residences, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The District is located in a rural agricultural area where sensitive receptors consist primarily of rural residences and small communities. Air emissions will be short term, limited to the construction period. There, the Proposed Program would have a **less-than-significant** impact on sensitive receptors.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Human response to odors is subjective, and sensitivity to odor varies from person to person. Typically, odors are considered an annoyance rather than a health hazard. However, a person's response to odor can range from psychological (e.g., irritation, anger, anxiety) to physiological (e.g., circulatory and respiration reaction, nausea, headaches, etc.). During future construction of landowner banking facilities odors would be generated from the use of diesel fuels, however, this would be short-term and non-significant due to the rural nature of the location of the Proposed

Program. During operation of the landowner banking facilities, no odors would be generated. Potential odor effects would be **less-than-significant**.

3.5 Biological Resources

#4. BIOLOGICAL RESOURCES. Would the project:

#4 -a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? Yes.	Have Less-than-Significant Impact? No.	Have No Impact? No.
#4 -b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#4 -c. Have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#4 -d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#4 -e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#4 -f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural	Have Potentially	Have Less-than-Significant Impact	Have Less-than-	Have No Impact? Yes.

Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	Significant Impact? No.	with Mitigation Incorporated? No.	Significant Impact? No.
---	-------------------------	-----------------------------------	-------------------------

3.5.1 *Environmental Setting*

Topography in the District is generally flat, with elevation ranging from approximately 250 to 450 feet above mean sea level. The District and the surrounding areas are almost entirely comprised of agricultural land and associated facilities. Agricultural land in the District is dominated by orchards and vineyards, which provide relatively poor-quality wildlife habitat. Remnant areas of natural habitat are primarily limited to portions of the Poso Creek corridor in the northern part of the District and the Kern River corridor in the southern part. These corridors support sensitive habitats (e.g., riparian vegetation and aquatic habitat), serve as wildlife movement corridors, and may provide suitable habitat for special-status plants and animals. Canals that flow through the District also provide potential movement corridors for common and special-status wildlife. The District does not, however provide habitat or movement corridors for anadromous fish or other sensitive native fish species. The District also does not support designated or proposed critical habitat for any federally listed threatened or endangered species.

The exact location of future recharge facilities is unknown at this time. Because facilities would be constructed on agricultural lands, potential to affect sensitive biological resources is relatively low. However, construction activities could occur in or adjacent to areas that support sensitive habitat and/or species. Therefore, before constructing any recharge facilities, the District would conduct site-specific biological field surveys and information review to evaluate potential for each site to support sensitive biological resources, including special-status species and habitat that falls under jurisdiction of one or more regulatory agency. The CEQA Checklist included as Appendix B would be completed for each proposed recharge facility to evaluate if potential impacts to sensitive biological resources can be avoided or adequately reduced to qualify for coverage under this IS/MND. If potential impacts are identified that cannot be reduced to a less-than-significant level in accordance with this IS/MND, additional CEQA documentation would be required.

Information sources reviewed to support this evaluation of potential for the Proposed Program to affect biological resources included GoogleEarth aerial imagery, the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2022), the California Native Plant Society (CNPS) online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2022), the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation web portal (USFWS 2022), the *Metropolitan Bakersfield General Plan* (2002), the *Kern County General Plan* (Kern County Planning Department 2009), the *Metropolitan Bakersfield Habitat Conservation Plan* (City of Bakersfield 1994), the First Public Draft of the Kern County Valley Floor Habitat Conservation Plan (HCP) (Kern County Planning Department 2006), and modeled habitat for species anticipated to be covered by new Bakersfield HCP under development.

Species lists and occurrences documented for the eight U.S. Geologic Survey (USGS) quadrangles in which the District is located (excluding the Kern River) were reviewed and are included in Appendix C. All species included on these lists were considered for potential to occur in the District; those determined to have potential to occur in the portion of the District where recharge facilities are anticipated to be constructed were evaluated for potential to be affected by program implementation and are discussed below. For purposes of the following discussion, reference to the District does not include portions along the Kern River, where recharge facilities are not anticipated to be constructed and for which supplemental environmental review would be required.

3.5.2 Discussion

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

Plants and animals addressed as special-status species in this analysis include taxa (distinct taxonomic categories or groups) that fall into any of the following categories:

- taxa officially listed, candidates for listing, or proposed for listing by the federal government or the state of California as endangered, threatened, or rare
- taxa that meet the criteria for listing
- wildlife identified by CDFW as species of special concern
- plant taxa considered by CDFW to be “rare, threatened, or endangered in California” (California Rare Plant Ranks 1 and 2)
- species listed as Fully Protected under the CFGC
- species afforded protection under local or regional planning documents

Special-status Plants

The CNDDDB contains very few occurrences of special-status plants in the District. Most of the documented occurrences in the region are historic and many are known or likely to have been extirpated. The CNDDDB includes only 11 total occurrences of three special-status plant taxa presumed to be extant and documented within the past 25 years in the eight USGS quadrangles that overlap the District (CDFW 2022). Of these, Kern mallow (*Eremalche parryi* ssp. *kernensis*) is the only taxa that has documented within the District boundaries. Recent occurrences of the other two species (Lost Hills crownscale [*Atriplex coronata* var. *vallicola*] and Bakersfield cactus [*Opuntia basilaris* var. *treleasei*]) are from areas of remnant native habitat approximately 4 and 3 miles, respectively, from the District boundary. A very small area of modeled habitat for Bakersfield cactus occurs in the northwestern portion of the District, north of Wasco (ICF 2013a). Based on the description of the single Kern mallow occurrence, this taxon is unlikely to persist in the District. The CNDDDB describes this occurrence as two or three plants seen along the roadside. The exact location of the observation is unknown, and the CNDDDB indicates it has been mapped

“as a best guess” along 7th Standard Road, between Interstate 5 and Highway 99 (CDFW 2022). This portion of the District is dominated by active agricultural land and very little, if any, potentially suitable habitat for this species occurs.

Due to the poor habitat conditions, special-status plants are unlikely to occur in the District and be affected by the Proposed Program. However, potential for areas of remnant suitable habitat and previously unknown populations to persist in the District and occur on a proposed recharge site cannot be completely dismissed. If present, such a population it would likely be extirpated by program implementation. Because of the rarity of special-status plants in the District and the wider region, such loss could have a substantial effect on the local and regional population and would be a **potentially significant** impact. Therefore, the following mitigation measure would be implemented if a proposed recharge site is determined during the site-specific biological evaluation to support suitable habitat for special-status plants.

Mitigation Measure BIO-1: Conduct Focused Surveys for and Maintain a Minimum 50-foot No disturbance Buffer from Special-status Plants.

To avoid potential effects on special-status plants (plants listed as threatened or endangered under state or federal endangered species act or with California Rare Plant Rank of 1B or 2B), the District will ensure that the following measures are implemented if a proposed recharge site supports suitable habitat for special-status plants.

- Within 2 years before construction activities begin at a given site, a qualified botanist will conduct surveys for special-status plants on and within 50 feet of the site, in accordance with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018).
- If special-status plants are observed during the surveys, temporary fencing or flagging will be installed before construction begins to create and maintain a minimum 50-foot no disturbance buffer between the construction area and special-status plants. The fencing will be installed at least 50 feet from the outer edge of occupied special-status plant habitat. A qualified biologist will identify the no disturbance area and confirm that flagging or fencing is installed in the appropriate locations.
- All construction activities, construction personnel, and vehicles will be prohibited from the 50-foot no disturbance buffer. Fencing/flagging will be inspected and repaired/replaced, as necessary, each day before work begins adjacent to the no disturbance area. Fencing/flagging will be removed after all construction activities adjacent to the no disturbance area are complete.

As with special-status plants, many documented occurrences of special-status wildlife in the region are historic and known or likely to have been extirpated. The CNDDDB includes 41 total occurrences of seven special-status animal taxa presumed to be extant and documented within the past 25 years in the eight USGS quadrangles that overlap the District (CDFW 2022). Three species have been recently documented in the District: spadefoot (*Spea hammondi*), burrowing owl (*Athene cunicularia*), and San Joaquin kit fox (*Vulpes macrotis mutica*). Spadefoot is known from only a single occurrence in a pond adjacent to the Friant-Kern Canal at the northeast District

boundary. This location is unlikely to be identified for recharge facilities and suitable aquatic habitat for spadefoot is very unlikely to occur elsewhere in the District. In addition, recharge facilities would not be constructed on sites that support wetland habitat. However, burrowing owl and San Joaquin kit fox can use agricultural habitats and have potential to occur throughout much of the District. If present during construction activities, burrows/dens occupied by these species could be destroyed and individuals could be killed or injured. Though they have not recently been documented in the District, Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), northern harrier (*Circus hudsonius*), and tricolored blackbird (*Agelaius tricolor*) are highly mobile species known from the region that also could occur on or adjacent to proposed recharge sites; tricolored blackbird nest colonies have occurred in grain fields within several miles of the northwest corner of the District in recent years. After construction, recharge sites would provide suitable foraging habitat for all these species, and suitable Swainson's hawk and white-tailed kite nest trees are unlikely to be removed. However, construction activities could destroy active tricolored blackbird nest colonies and could disturb nearby nest colonies and nest sites of the other species, potentially resulting in nest abandonment, reduced care of eggs or young, or premature fledging.

Other special-status wildlife known from the region are less likely to occur on proposed recharge sites because they do not make long-distance movements and are more restricted to remnant areas of grassland and native scrub habitat. These include taxa such as blunt-nosed leopard lizard (*Gambelia sila*), Bakersfield legless lizard (*Anniella grinnelli*), coast horned lizard (*Phrynosoma blainvillii*), California glossy snake (*Arizona elegans occidentalis*), San Joaquin antelope squirrel (*Ammospermophilus nelsoni*), and Tipton kangaroo rat (*Dipodomys nitratoideus nitratoideus*). Modeled habitat for blunt-nosed leopard lizard and San Joaquin antelope squirrel occurs in three small areas of the District, in the northwest corner, southwest corner, and near the eastern boundary west of Cawelo (ICF 2013b and 2013c). Modeled habitat for Tipton kangaroo rat occurs in one area in the southwest corner of the District (ICF 2014). As discussed above for special-status plants, potential for areas of remnant suitable habitat and previously unknown populations of these taxa to persist in the District and occur on a proposed recharge site cannot be completely dismissed. If present, such a population could be extirpated or substantially reduced by program implementation.

Because of the rarity of special-status wildlife in the District and the wider region, the impacts discussed above could have a substantial effect on the local and regional populations and would be a **potentially significant** impact. Therefore, the following mitigation measures would be implemented if a proposed recharge site is determined during the site-specific biological evaluation to support suitable habitat for special-status wildlife.

Mitigation Measure BIO-2: Maintain a Minimum 50-foot No disturbance Buffer from Blunt-nosed Leopard Lizard Habitat.

To avoid potential effects on blunt-nosed leopard lizard, the District will ensure that the following measures are implemented if a proposed recharge site supports suitable habitat for blunt-nosed leopard lizard.

- Before construction activities begin at a given site, temporary fencing will be installed to prevent blunt-nosed leopard lizard from entering the construction area and to create and maintain a minimum 50-foot no disturbance buffer between the construction area and habitat that supports burrows suitable for blunt-nosed leopard lizard. The fencing will be installed at least 50 feet from burrows suitable for blunt-nosed leopard lizard.
- A qualified biologist will determine where fencing will be installed, conduct a pre-installation survey of the fence alignment to confirm no suitable burrows for blunt-nosed leopard lizard are present in or within 50 feet of the fence alignment, and be present during all fence installation and removal to ensure that no blunt-nosed leopard lizards are harmed.
- All construction activities, construction personnel, and vehicles will be prohibited from the 50-foot no disturbance buffer. Fencing will be inspected and repaired, as necessary, each day before work begins adjacent to the fencing. Fencing will be removed after all construction activities adjacent to the habitat are complete.

Mitigation Measure BIO-3: Conduct Habitat Assessment and Focused Surveys for Burrowing Owls and Minimize Disturbance of and Avoid Loss of Occupied Burrows.

To minimize potential effects on burrowing owl, the District will ensure that the following measures are implemented, consistent with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012), if a proposed recharge site supports potentially suitable habitat for burrowing owl.

- A qualified biologist will assess burrowing owl habitat suitability in the area subject to direct impact and adjacent areas within 500 feet.
- If suitable habitat or sign of burrowing owl presence is observed, a take avoidance survey will be conducted within 10 days before construction activities begin near areas of suitable habitat.
- If any occupied burrows are observed, protective buffers will be established and implemented. A qualified biologist will monitor the occupied burrows during construction activities to confirm effectiveness of the buffers. The size of the buffer will depend on type and intensity of disturbance, presence of visual buffers, and other variables that could affect susceptibility of the owls to disturbance.
- If destruction of an occupied burrow cannot be avoided and it is determined, in consultation with CDFW, that passive exclusion of owls from the construction footprint is an appropriate means of minimizing direct impacts, an exclusion and relocation plan will be developed and implemented in coordination with CDFW. Passive exclusion will not be conducted during the breeding season (February 1 – August 31), unless a qualified biologist verifies through noninvasive means that either (1) the birds have not begun egg laying or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival.

- If passive exclusion is conducted, each occupied burrow that is destroyed will be replaced with at least one artificial burrow on a suitable portion of the recharge site that would not be subject to inundation or ground disturbance.

Mitigation Measure BIO-4: Avoid Removal of Recently Active Swainson's Hawk Nest Trees and Conduct Focused Surveys for Nesting Swainson's Hawks and White-tailed Kites and Implement Take Avoidance Plan for Active Nests.

To minimize potential effects on known Swainson's hawk nest trees and active Swainson's hawk and white-tailed kite nests, the District will ensure that the following measures are implemented, if a proposed recharge site supports potentially suitable habitat for Swainson's hawk:

- Removal of any trees known to have supported an active Swainson's hawk nest within the previous 5 years will be prohibited.
- If construction activities would occur during the Swainson's hawk nesting season (April-August), a qualified biologist will conduct surveys of potential Swainson's hawk nesting trees within 0.5 mile of the recharge site. To the extent practicable, depending on timing of construction initiation, surveys will be conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). At a minimum, at least one survey will be conducted within 10 days before construction activities begin during the nesting season. If a lapse in construction activities of 10 days or longer occurs, another focused survey will be conducted before activities resume during the nesting season.
- If construction would begin during the white-tailed kite nesting season (March 1-August 31), a qualified biologist will conduct surveys of potential white-tailed kite nesting trees within 0.25 mile of the recharge site. The survey will be conducted no more than 10 days before construction activities begin during the nesting season. If a lapse in construction activities of 10 days or longer occurs, another focused survey will be conducted before activities resume during the nesting season.
- If an active Swainson's hawk or white-tailed kite nest is found, a qualified biologist will prepare a site-specific take avoidance plan to comply with the California Endangered Species Act and the CFGC. Measures may include but are not limited to nest-specific no disturbance buffers, biological monitoring, rescheduling construction activities around sensitive periods for the species (e.g., nest establishment), and/or implementing construction best practices, such as staging equipment out of the species' line of sight from the nest tree. The avoidance/protection measures will be established before construction activities begin and continue until the adult and young birds are no longer reliant on the nest site.

Mitigation Measure BIO-5: Conduct Focused Surveys for Other Nesting Birds and Implement Buffers Around Active Nests.

To minimize potential effects on active nests of other special-status birds and common birds protected by state and federal regulations, the District will ensure that the following measures are implemented, if a proposed recharge site supports potentially suitable habitat for nesting birds:

- If construction would occur during the bird nesting season (February-August), a qualified biologist will conduct surveys of 1) suitable nesting habitat for common birds within 100 feet of construction activities, 2) suitable nesting habitat for non-raptor special-status birds within 300 feet of construction activities, and 3) suitable nesting habitat for raptors other than those addressed in BIO-3 and BIO-4 within 500 feet of construction activities. Surveys will be conducted within 10 days before construction activities begin during the nesting season. If a lapse in construction activities of 10 days or longer occurs, another focused survey will be conducted before activities resume during the nesting season.
- If any active bird nests are observed, a qualified biologist will prepare a site-specific take avoidance plan to comply with applicable state and federal regulations. If an active tricolored blackbird nesting colony is found during preconstruction surveys, a minimum 300-foot no-disturbance buffer will be implemented in accordance with CDFW's Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 2015 (CDFW 2015), or more recent guidance if issued, until the breeding season has ended or until a qualified biologist has determined that nesting has ceased and the young have fledged and are no longer reliant upon the colony or parental care for survival. Measures for other species may include but are not limited to nest-specific no disturbance buffers, biological monitoring, rescheduling construction activities around sensitive periods for the species (e.g., nest establishment), and/or implementing construction best practices, such as staging equipment out of the species' line of sight from the nest tree. The avoidance/protection measures will be established before construction activities begin and continue until the adult and young birds are no longer reliant on the nest site.

Mitigation Measure BIO-6: Conduct Pre-Construction Surveys and Implement Measures during Construction to Minimize Potential Impacts on San Joaquin Kit Fox.

To minimize potential effects on San Joaquin kit fox, the District will ensure that the following measures are implemented, if a proposed recharge site supports potentially suitable habitat for San Joaquin kit fox:

- No more than 30 days before construction activities begin at a given site, a qualified biologist will conduct a pre-construction survey to determine the potential for a San Joaquin kit fox den to occur in the area. If potential or known den for San Joaquin kit fox is found, an exclusion zone will be established and maintained, in accordance with the *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox* (USFWS 2011).

- If construction activity would occur within 50 feet of a potential den (i.e., a den that is not known to be occupied), monitoring will be conducted at the potential den for 4 consecutive days. If no San Joaquin kit fox activity is documented, construction activities can proceed. If San Joaquin kit fox activity is documented, the appropriate exclusion zone will be established and maintained, in accordance with the *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox* (USFWS 2011).
- To prevent kit fox entrapment during construction, all excavated, steep-walled holes or trenches more than 2 feet deep will be covered with plywood or similar material at the end of each workday. If the trenches cannot be closed, one or more escape ramps of no more than a 45-degree slope will be constructed of earthen fill or created with wooden planks. All covered or uncovered excavations will be inspected at the beginning, middle, and end of each day. Before trenches are filled, they will be inspected for trapped animals. If a trapped kit fox is discovered, construction activities in and near the excavation will stop, and escape ramps or structures will be installed immediately to allow the animal to leave voluntarily. Construction activities will not resume until the animal has left the area.
- All construction pipes or similar structures with a diameter of 4 inches or greater that are stored on the ground at a construction site for one or more overnight periods will be thoroughly inspected for wildlife before the pipe is buried, capped, or otherwise used or moved in any way. Pipes laid in trenches overnight will be capped. If a potential San Joaquin kit fox is discovered inside a pipe, all construction activities near the pipe will stop, and the animal will be allowed to leave the pipe voluntarily. Construction activities will not resume until the animal has left the area.
- All food-related trash items such as wrappers, cans, bottles, or food scraps generated during construction activities will be disposed of in closed containers and removed daily from the recharge site. No deliberate feeding of wildlife will be allowed, and no pets associated with construction personnel will be permitted on the recharge site.

Mitigation Measure BIO-7: Conduct Focused Surveys for and Maintain a Minimum 50-foot No disturbance Buffer from Burrows Occupied by San Joaquin Antelope Squirrel.

To avoid potential effects on San Joaquin antelope squirrel, the District will ensure that the following measures are implemented, if a proposed recharge site supports suitable habitat for San Joaquin antelope squirrel.

- Before construction begins, a qualified biologist will conduct focused surveys for San Joaquin antelope squirrel on and within 50 feet of the recharge site. Surveys will be conducted during weather conditions when the species is most likely to be detected.
- If San Joaquin antelope squirrel is observed during the surveys, temporary fencing will be installed to prevent San Joaquin antelope squirrel from entering the construction area and to create and maintain a minimum 50-foot no disturbance buffer between the

construction area and burrows occupied by San Joaquin antelope squirrel. The fencing will be installed at least 50 feet from occupied San Joaquin antelope squirrel burrows.

- A qualified biologist will determine where fencing will be installed, conduct a pre-installation survey of the fence alignment to confirm no occupied burrows for San Joaquin antelope squirrel are present in or within 50 feet of the fence alignment, and be present during all fence installation and removal to ensure that no San Joaquin antelope squirrels are harmed.
- All construction activities, construction personnel, and vehicles will be prohibited from the 50-foot no disturbance buffer. Fencing will be inspected and repaired, as necessary, each day before work begins adjacent to the fencing. Fencing will be removed after all construction activities adjacent to the occupied San Joaquin antelope squirrel habitat are complete

Mitigation Measure BIO-8: Maintain a Minimum 50-foot No disturbance Buffer from Tipton Kangaroo Rat Habitat.

To avoid potential effects on Tipton kangaroo rat, the District will ensure that the following measures are implemented, if a proposed recharge site supports potentially suitable habitat Tipton kangaroo rat.

- Before construction activities begin, temporary fencing will be installed to prevent Tipton kangaroo rat from entering the construction area and to create and maintain a minimum 50-foot no disturbance buffer between the construction area and habitat that supports burrows suitable for Tipton kangaroo rat. The fencing will be installed at least 50 feet from burrows suitable for Tipton kangaroo rat.
- A qualified biologist will determine where fencing will be installed, conduct a pre-installation survey of the fence alignment to confirm no suitable burrows for Tipton kangaroo rat are present in or within 50 feet of the fence alignment, and be present during all fence installation and removal to ensure that no Tipton kangaroo rats are harmed.
- All construction activities, construction personnel, and vehicles will be prohibited from the 50-foot no disturbance buffer. Fencing will be inspected and repaired, as necessary, each day before work begins adjacent to the fencing. Fencing will be removed after all construction activities adjacent to the habitat are complete.

Mitigation Measure BIO-9: Implement Measures to Educate On-site Construction Personnel and Minimize Impacts on Additional Sensitive Species

To minimize potential effects on sensitive species, the District will ensure that the following measures are implemented, if a proposed recharge site supports potentially suitable habitat for sensitive species.

- Before construction activities begin, all on-site construction personnel will attend a Worker Environmental Awareness Program conducted by a qualified biologist. The program will address special-status species that could occur in the recharge area and include a discussion of species identification, life history, general behavior, habitat,

distribution and sensitivity to human activities; state and federal legal protections; and required avoidance and minimization measures. A handout containing the information provided in the training will be provided to all personnel. Upon completion of the training, all personnel in attendance will sign a form stating they received the training and understand all topics discussed.

- If suitable larval host plants for monarch butterfly are present and would be removed during the period when monarchs are typically dependent on host plants, the potential host plants will be surveyed by a qualified biologist for monarch eggs, larva, and chrysalides. If any of these life stages are observed, removal of the host plant will be delayed, if feasible, until the monarch butterflies have emerged.
- If suitable habitat for special-status wildlife species that are not addressed under previous mitigation measures (e.g., Bakersfield legless lizard, California glossy snake, coast horned lizard, badger) is observed, the habitat/den will be avoided, if feasible, by implementing a 50-foot no disturbance buffer around dens and burrows that may be occupied by special-status species.

Implementing Mitigation Measures BIO-1 through BIO-9 would reduce the potentially significant impacts on special-status plants and wildlife identified in the above discussion to a less-than-significant level. Each landowner banking facility would be evaluated based on the CEQA Checklist included as Appendix B. If additional mitigation is required, supplemental CEQA documentation would be completed. Therefore, this impact is considered **less than significant with mitigation incorporated**.

b, c) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? Have a substantial adverse effect on state- or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Landowner recharge facilities would be located exclusively on agricultural lands that do not support habitats under resource agency jurisdiction, including waters of the U.S., waters of the State, and habitat regulated under section 1600 of the CFGC. Each landowner banking facility would be evaluated by a biologist to confirm that no riparian habitat, sensitive natural community, or state- or federally protected wetlands are found on the proposed recharge site. If a recharge site is found to contain any of these resources, supplemental CEQA documentation would be completed. Therefore, the Proposed Program will have **no impact** on riparian habitat, sensitive natural communities, or state- or federally protected wetlands.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The District is dominated by agricultural land and is part of a much larger regional extent of agricultural land. The District does not support established migratory corridors for fish or wildlife and is not known or anticipated to support nursery sites for any wildlife species. Terrestrial wildlife may move through agricultural land in the District in transit between areas of more suitable habitat, but this does not occur along established routes. Agricultural land surrounding potential proposed recharge sites provides equally suitable movement opportunities. Established movement corridors are likely to be limited to the canals in the District. Because the District is subject to regular disturbance from agricultural activities similar to disturbance levels anticipated to occur on the recharge sites, and work would only occur during daylight hours, potential for program implementation to disrupt wildlife movement is very low. Therefore, the Proposed Program would not substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. This impact would be **less-than-significant**.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Implementing the Proposed Program would not be subject to any local (City of Bakersfield or Kern County) discretionary approvals. Therefore, it is not subject to local policies and ordinances. However, potential for conflict with local policies and ordinances is described and considered here for informational purposes only. The *Metropolitan Bakersfield General Plan* (City of Bakersfield 2002) includes general goals and policies and implementation measures related to conservation of biological resources and sensitive species; the Proposed Program would not conflict with these goals or policies. The *Kern County General Plan* (Kern County Planning Department 2009), which is currently being updated, includes policies and implementation measures designed to protect and conserve oak trees. Recharge facilities would not be implemented on sites that support oak woodland habitat and individual oak trees that meet the protection criterion are very unlikely to occur on proposed recharge sites. For these reasons, the Proposed Program would not conflict with any local policies or ordinances protecting biological resources, and there would be **no impact** related to this issue.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?

The southern portion of the District overlaps the permit areas for the adopted Metropolitan Bakersfield HCP and the Bakersfield HCP under development. However, the Proposed Program would not be subject to requirements of either plan because it would not be subject to any local (City of Bakersfield or Kern County) discretionary approvals. In addition, implementing the Proposed Program would not adversely affect successful implementation of either of these plans.

The remainder of the District is within the area intended to be covered by the Kern County Valley Floor HCP. A draft of this plan was issued more than a decade ago (Kern County Planning Department 2006), but a final plan has not been released. Because it has not been adopted, conflict with this plan does not require evaluation under CEQA. However, it is described and considered here for informational purposes only. The District is within the “White Zone” identified in the draft plan; this zone is of lower conservation concern and not identified for acquisition of preserve areas. Implementing the Proposed Program would not conflict with any provisions, guidelines, goals, or objectives related to biological resources anticipated to be included in a potential final and adopted version of the plan. For these reasons, implementing the Proposed Program would have **no impact** related to conflict with an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or State HCP.

3.6 Cultural Resources

#5. CULTURAL RESOURCES. Would the project:

#5 -a. Cause a substantial adverse change in the significance of a historical resource pursuant to CCR Section 15064.5?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? Yes.	Have Less-than-Significant Impact? No.	Have No Impact? No.
#5 -b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? Yes.	Have Less-than-Significant Impact? No.	Have No Impact? No.
#5 -c. Disturb any human remains, including remains interred outside of dedicated cemeteries?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? Yes.	Have Less-than-Significant Impact? No.	Have No Impact? No.

3.6.1 Environmental Setting

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historic, architectural, archaeological, cultural, or scientific importance. CEQA defines a “historical resource” as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR).

Prehistoric Context

Evidence for early occupation of the San Joaquin Valley is diffuse and ephemeral. Changing climate at the end of the Pleistocene brought floods, which covered much of the Central Valley with layers of alluvial soils and buried evidence of human occupation. People living in the San Joaquin Valley during this time are posited to have been hunters and foragers, living in small groups, and travelling often from camp to camp in response to seasonal availability of resources. Sites are expected to have been primarily located along lakesides (Fredrickson 1994) with the ancient shores of Tulare Lake the nearest location for discovery of Lower Archaic period sites (Wallace and Riddell 1991).

As the climate continued to warm during the Middle Archaic, the Tulare Lake shoreline to receded (Davis 1999) and settlement patterns become more stable, especially along river corridors (Rosenthal et al. 2007). During the Middle and Upper Archaic periods, the Windmill Pattern was common throughout the Central Valley, extending south as far as Buena Vista Lake (Rosenthal et al. 2007). This archaeological pattern is identified by burial style, where individuals were interred in extended positions, oriented towards the west, and often buried with artifacts such as quartz crystals, red pigment (ochre or cinnabar), Olivella shell beads (particularly types A1a and L), abalone (Haliotis) beads (type M) and pendants, stone pipes, charmstones, large, leaf-shaped

projectile points associated with the atlatl, bone tools (e.g., awls, needles, strigles), baked-clay net weights, and ground stone tools (mortars, pestles, millingstones, and manos) (Moratto 1984).

The Upper Archaic period began at roughly the same time as the Late Holocene, ushering in a period of cooler, wetter conditions. More alluvium was deposited over the earlier archaeological sites as rivers and lakes grew and flooded. Cultural diversity and complexity both developed during the Upper Archaic, and new variation is seen in burial contexts, artifact styles, bead types, and ground stone tool forms.

While many sites dating to the Upper Archaic have been recorded in the Sacramento Valley and northern San Joaquin Valley, very few have been found from the southern San Joaquin Valley where the Project is located (Rosenthal et al. 2007); however, two, year-round village sites in Kern County, near Buena Vista Lake, and approximately 60 miles southwest of Porterville, suggest that settlement patterns became much more sedentary during this period (Hartzell 1992).

The Emergent Period was a time of economic development, including the expansion of trade networks, the development of social inequity, and the introduction of clamshell disc beads as a symbolic currency (Fredrickson 1994). Pottery was obtained in the Tulare basin through trade with tribes in the foothills and to the north (Wallace 1990). The bow and arrow was introduced, and new styles of smaller projectile points were developed; in southern San Joaquin Valley, the most common were Cottonwood style points.

Ethnographic Context

The Project is situated in the ethnographic territory of the Southern Valley Yokuts, specifically the Wowol (Cook 1955:75; Wallace 1978). Neighboring Southern Valley Yokuts tribes, all within the Tulare Lake Basin, included the Tachi and Chunut. Cook estimates the population of these three Yokuts tribes at 6,500 before European contact but had been reduced to 1,100 by 1852 (1955:44).

Historic Context

Kern County

Kern County was established in 1866 and Bakersfield became the County seat in 1874. As early as the 1770s, Spanish explorers Don Pedro Fages and Father Francisco Garces passed through the region. Father Zalvidea and Lt. Francisco Ruiz were part of another survey expedition in the early 19th century. They were followed by fur trappers Jedediah Strong Smith and Kit Carson and later John C. Fremont and his expedition in the mid-1840s (Kern County Centennial Observance Committee 1966:9; Elliott 1883:102, 111–112).

In 1851, gold was discovered near the Kern River and gold mining became a dominant activity in the county, especially in the mountains and the desert. Later many of the miners settled in the flatlands and turned to agriculture and livestock as a more suitable means of sustaining a living. In time, the locals constructed small canals and ditches to allow for farming. With irrigation improvements in place, farmers planted crops and agriculture soon became the primary driver of the economy. Agriculture and oil remained a mainstay of the county through the 20th century.

Presently, the economy of the county is largely based on agriculture and petroleum extraction (Kern County 1966: 21, 23, 77, 117–118).

By the 1860s, oil was discovered in the county. Small communities near the oil fields grew into the towns of Whiskey Flat, later Kernville, Buttonwillow, Bakersfield, Oil City, Oil Center, and Oildale were founded near the oil fields. Further settlement was encouraged by the passage of the Desert Land Act of 1877 that promoted the development of the arid lands of the west. The Southern Pacific Railroad laid tracks near Bakersfield in 1877 and a few years later the San Francisco and San Joaquin Valley Railroad, later Santa Fe Railroad arrived in the area. Starting in the 1930s, Kern County became home to thousands of settlers who fled the Dust Bowl in the Midwestern United States (Morgan 1914:35). Agriculture and oil remained a mainstay of the county through the 20th century.

Irrigation

Cattle ranching and wheat farming remained the predominant agricultural pursuits in the Valley into the 20th century based largely on improved irrigation methods. Irrigation systems were typically beyond the financial means of individual farmers and arrangements related to the development of irrigation features were often made with the community and local institutions. These generally fell into four categories, private water companies, land colonies, mutual water companies, and irrigation districts representing the largest acreage and the most critical to the successful development of large-scale irrigated agriculture in the state. Irrigation transformed the Valley landscape and created one of the nation's most productive agricultural region (JRP Consulting Services [JRP] and California Department of Transportation (Caltrans) 2000 12 13).

By the early 20th century, much of the flow of the Kern River was redirected through canals and ditches and by 1910 all the surface-water supplies in the Valley was diverted, which resulted in the development of ground-water resources. By 1955, nearly one-fourth of the total ground water obtained for irrigation in the U.S. was pumped in the Valley, a trend that continued into the 1960s. With the completion of federal and state projects, including the Delta-Mendota Canal, Friant-Kern Canal, and the California Aqueduct, cheaper water was available to irrigate agricultural crops (Galloway and Riley 1999:23–24, 27–29).

Friant-Kern Canal

As part of the CVP, the Friant-Kern Canal (FKC) delivers water for irrigation to Kern, Tulare, and Fresno counties. The concrete lined canal carries water from the Friant Dam at Millerton Lake near Fresno to the Kern River near Bakersfield. Construction on the FKC started in 1949 and was completed in 1951. At 151 miles long, it is the longest canal in California (Reclamation 2007: 31, 62).

North Kern Water Storage District

North Kern Water Storage District (District) was organized in 1935 and comprises approximately 60,000 acres of predominately agricultural land north of the City of Bakersfield, west of Highway 99, and east of the cities of Shafter and Wasco. The District administers a conjunctive use project that consists of groundwater banking, recovery, and exchange programs to optimize water

supplies. Groundwater banking facilities consist of approximately 1,726 acres of spreading ponds/recharge basins with a capacity to recharge up to 330,000 AFY.

3.6.2 Discussion

Methods

A review of existing data stored at the Southern San Joaquin Valley Information Center has not been conducted at this time given that the specific locations of landowner banking facilities are unknown. Record searches, archival research, Native American consultation, and archaeological and built environment reconnaissance level surveys would be conducted as needed for each future proposed landowner banking facility in compliance with Appendix B.

a, b) Cause a substantial adverse change in the significance of a historical resource pursuant to in CCR Section 15064.5? Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5?

Under CEQA, public agencies must consider the effects of their actions on “historical resources.” CEQA defines an “historical resource” as any resource listed in or determined to be eligible for listing in the CRHR. The CRHR includes resources listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP), as well as some California Historical Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (California Public Resource Code [PRC] Section 5024.1, 14 CCR Section 4850).

The eligibility criteria for listing in the CRHR are similar to those for NRHP listing but focus on importance of the resources to California history and heritage.

A cultural resource may be eligible for listing on the CRHR if it:

- Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage
- Is associated with the lives of persons important in our past
- Embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of an important creative individual or possesses high artistic values
- Or has yielded, or may be likely to yield, information important in prehistory or history

In addition to meeting one or more of the above criteria, resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be recognizable as historical

resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

Additionally, the state CEQA Guidelines require consideration of unique archaeological resources (CCR Section 15064.5). As used in California PRC Section 21083.2, the term “unique archaeological resource” refers to an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
- has a special and particular quality such as being the oldest of its type or the best available example of its type
- or is directly associated with a scientifically recognized important prehistoric or historic event or person

The FKC could be used to convey water to landowner banking facilities. The FKC has been found eligible for listing in the National Register of Historic Places and therefore is automatically eligible for listing in the CRHR. The resource is also considered a historical resource for the purposes of CEQA. The FKC would retain its historical significance and integrity as it would not be modified as part of the Proposed Program, therefore there would be **no impact** to the FKC.

Each landowner banking facility would be evaluated based on record searches, archival research, Native American consultation, and archaeological and built environment field surveys, as needed.

Given the unknown location of potential future recharge basin, the project would have a **potentially significant** impact. The following mitigation measure has been identified and would be implemented as needed depending on the results of each proposed facilities potential impacts.

Mitigation Measure CR-1: Address Previously Undiscovered Historic Properties, Archaeological Resources, and Tribal Cultural Resources.

If cultural resources are identified during Project-related ground-disturbing activities, all potentially destructive work in the immediate vicinity of the find should cease immediately and the District should be notified. In the event of an inadvertent discovery, additional CEQA review might be necessary to determine a properties’ eligibility for listing in the CRHR and any actions that would be necessary to avoid adverse effects. A qualified archaeologist should assess the significance of the find, make a preliminary determination, and if appropriate, provide recommendations for treatment. Any treatment plan should be reviewed by the District prior to implementation. Ground-disturbing activities should not resume near the find until treatment, if any is recommended, is complete or if the qualified archaeologist determines the find is not significant.

Implementation of Mitigation Measure CR-1 would reduce potential impacts to less-than-significant by assessing any undiscovered historic properties, archaeological resources, and tribal cultural resources by an archaeologist and the treatment or investigation would be conducted in

accordance with CEQA and its implementing guidelines. Therefore, this impact is considered **less than significant with mitigation incorporated**.

c) Disturb any human remains, including remains interred outside of dedicated cemeteries?

If human remains, including those interred outside of formal cemeteries and including associated items and materials, are discovered during subsurface activities, the human remains, and associated items and materials could be inadvertently damaged, therefore, a **potentially significant** impact could occur. The following mitigation measure has been identified and would be implemented as needed depending on the results of each proposed facilities potential impacts.

Mitigation Measure CR-2: Avoid Potential Effects on Undiscovered Burials.

If human remains are found, the contractor will notify the District immediately. The California Health and Safety Code requires that excavation be halted in the immediate area and that the county coroner be notified to determine the nature of the remains. The county coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code, Section 7050.5[b]). If the county coroner determines that the remains are those of a Native American, the county coroner must contact the Native American Heritage Commission (NAHC) by telephone within 24 hours of making that determination (Health and Safety Code, Section 7050.5[c]).

Once notified by the county coroner, the NAHC shall identify the person determined to be the Most Likely Descendant (MLD) of the Native American remains. With permission of the legal landowner(s), the MLD may visit the site and make recommendations regarding the treatment and disposition of the human remains and any associated grave goods. This visit should be conducted within 24 hours of the MLD's notification by the NAHC (PRC, Section 5097.98[a]). If a satisfactory agreement for treatment of the remains cannot be reached, any of the parties may request mediation by the NAHC (PRC, Section 5097.94[k]). Should mediation fail, the landowner or the landowner's representative must reinter the remains and associated items with appropriate dignity on the property in a location not subject to further subsurface disturbance (PRC, Section 5097.98[b]).

Implementing Mitigation Measure CR-2 would reduce this impact to less-than-significant by assessing any undiscovered burials by an archaeologist and treated or investigated in accordance with state and federal laws. Therefore, the Proposed Program would have a **less-than-significant impact with mitigation incorporated**.

3.7 Energy

#6. ENERGY. Would the project:

#6 -a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#6 -b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.

3.7.1 Environmental Setting

Electricity and natural gas in Kern County are supplied by Pacific Gas and Electric (PG&E), Southern California Edison, and Southern California Gas (Kern County 2004a). In 2020, the total electricity consumption for Kern County was approximately 14,966 million kilowatts per hour (CEC 2020).

3.7.2 Discussion

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

The Proposed Program would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources because future construction would only consume enough energy required to construct any proposed landowner banking facilities. Future landowner banking facilities would involve the use of diesel-fueled vehicles during construction; however, use of these vehicles would be short-term and temporary. During operation of the project, a minimal amount of additional energy may be necessary to convey landowner-purchased water through the District's distribution system. However, the Proposed Program would indirectly reduce energy consumption in the basin because the project supports maintaining groundwater levels and sustainability in the area, which would contribute to a reduced need for energy to pump groundwater in the future. Since the Proposed Program would not cause a significant increase in electrical demand compared to current conditions, the Proposed Program would have no adverse impacts on energy consumption during the operations phase. There would be a **less-than-significant** impact.

b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

The Proposed Program does not conflict with any state or local plans regarding renewable energy or energy efficiency. There would be **no impact**.

3.8 Geology and Soils

#7. GEOLOGY AND SOILS. Would the project:

#7 -a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
#7 -a. i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#7 -a. ii. Strong seismic ground shaking?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#7 -a. iii. Seismic-related ground failure, including liquefaction?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#7 -a. iv. Landslides?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#6 -b. Result in substantial soil erosion or the loss of topsoil?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#7 -c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.

#7 -d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated),), creating substantial direct or indirect risks to life or property?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#7 -e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#7 -f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? Yes.	Have Less-than-Significant Impact? No.	Have No Impact? No.

3.8.1 *Environmental Setting*

Various soil types are located within the District boundaries. The District is located on fan deposits and Pleistocene nonmarine sedimentary rock (Smith 1964). The only fault located within the District boundaries is the quaternary Pond-Poso Creek Fault (D.O.C. 2010 and 2020a).

In 2014, the state of California adopted the SGMA, which requires local Groundwater Sustainability Agencies (GSAs) to be formed for all high and medium priority basins in the state. GSAs must develop and implement GSPs for managing and using groundwater without causing undesirable results for the following sustainability indicators: groundwater-level declines, groundwater-storage reductions, water quality degradation, and land subsidence.

North Kern is a member of the Kern Groundwater Authority. GSAs must develop and implement GSPs, which were submitted in January 2020, for managing and using groundwater without causing undesirable results for groundwater-level declines, groundwater-storage reductions, water quality degradation, and land subsidence; also referred to sustainability indicators

As noted above subsidence is the gradual settling or sudden sinking of the ground surface resulting from subsurface movement of earth materials. There are multiple causes and types of subsidence. Subsidence caused by withdrawal of groundwater in quantities much larger than replacement is one cause of subsidence of concern in parts of Kern County. Subsidence of this type is one of the six undesirable results presented in SGMA where the undesirable result is defined as “significant and unreasonable land subsidence that substantially interferes with surface land uses.”

North Kern’s understanding of the effects of subsidence, and the District’s commitment to sustainably managing groundwater, precedes SGMA. In 2011, the District installed a subsidence monitoring network which consists of four dedicated monitoring wells and 2.5-inch brass

monuments installed in the concrete foundation at 20 District well sites, all of which are proximate to the FKC (**Figure 3-1**). The north-south line of monuments extends for a little more than 10 miles; from about 1.5 miles north of Highway 46 to about 1.5 miles south of Lerdo Highway (approximately Mile Posts 130-140 of the FKC). The initial survey of this monitoring network was conducted in Spring 2012 and resurveyed in July 2017. As shown on **Figure 3-1**, nine wells used to return banked water are part of the subsidence monitoring network. Locations were strategically identified to represent impacts from groundwater banking during times of surplus and recovery during periods of need. Additionally, the District is a member of the Kern Groundwater Authority (KGA) GSA and participates in the joint Regional Critical Infrastructure monitoring for subsidence under the KGA's Groundwater Sustainability Plan. The District will perform annual subsidence surveys.

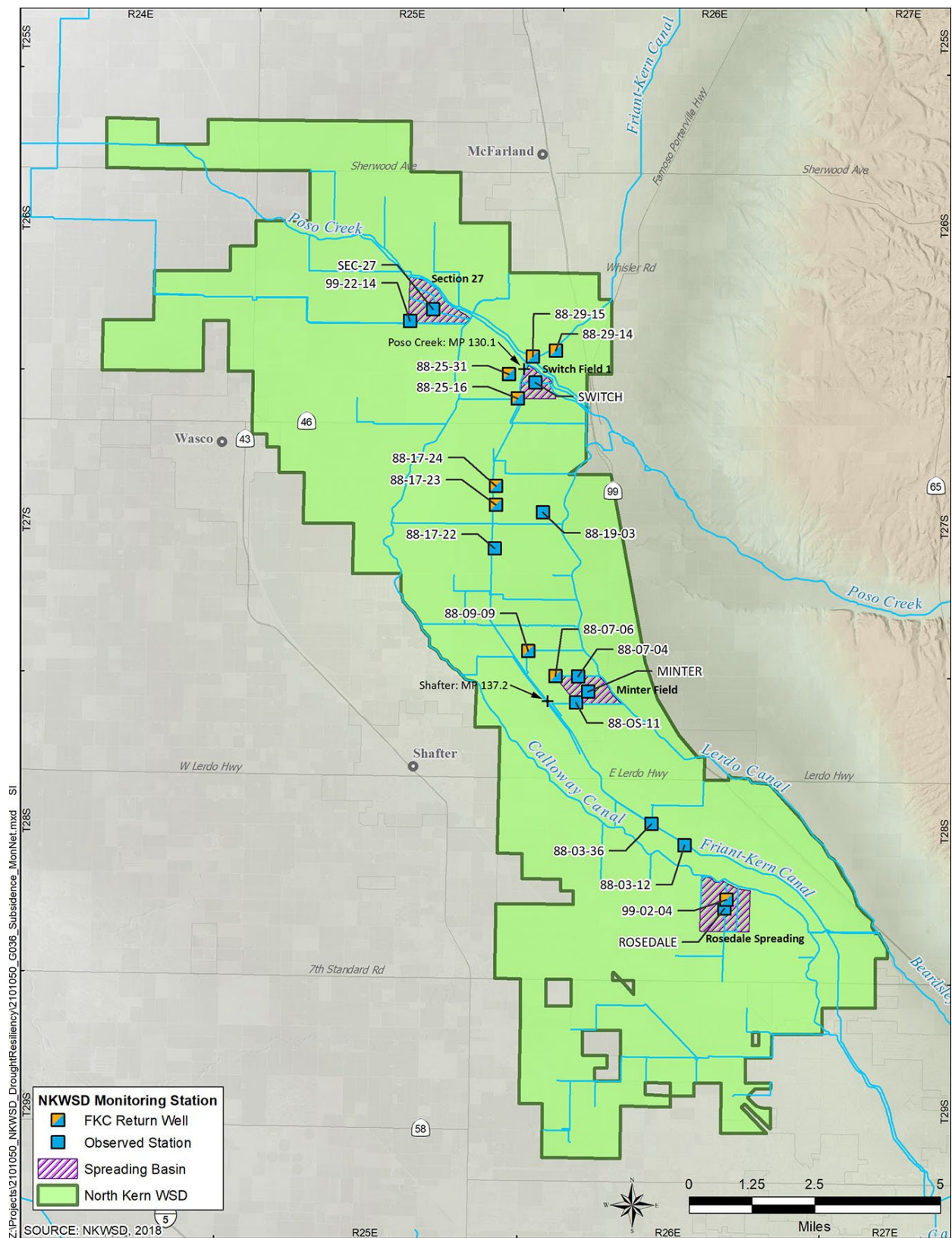


Figure 3-1. North Kern Subsidence Monitoring Network

3.8.2 Discussion

a) **Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**

I, ii, iii, iv) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.) Strong seismic ground shaking, Seismic-related ground failure, including liquefaction, or Landslides?

A portion of the District is located within an Alquist-Priolo Earthquake Fault Zone (mapped as an area of required investigation) or an area where strong seismic ground shaking or failure could occur. The only fault that is located within the District boundaries is the quaternary Pond-Poso Creek Fault (D.O.C. 2010 and 2020a). Surface fault rupture is most likely to occur on active faults (i.e., faults showing evidence of displacement within the last 11,700 years). Damage from surface fault rupture is generally limited to a linear zone a few yards wide. Additionally, if a seismic event should cause a pipeline break within a landowner banking facility, the water would be released underground in a low gradient, agricultural area, posing minimal risk to people or structures. Lastly, the District's boundary is located in a topographically flat area and thus there would be no harm from landslides. The California Geologic Survey does not identify any portions of the District as susceptible to landslides (CGS 2015). Therefore, this impact is considered **less-than-significant**.

b) Result in substantial soil erosion or the loss of topsoil?

Future construction activities would result in short-term soil disturbance and could expose disturbed areas if a storm event occurs during construction. Rainfall of sufficient intensity could dislodge soil particles from the soil surface. If particles are dislodged and the storm is large enough to generate runoff, substantial localized erosion could occur. In addition, soil disturbance could result in substantial loss of topsoil from wind erosion.

Each landowner banking facility would be evaluated against the CEQA Checklist in Appendix B and if deemed necessary, the landowner would prepare and implement a SWPPP to prevent and control pollution and to minimize and control runoff and erosion in compliance with state and local laws. The SWPPP would identify the activities that may cause pollutant discharge (including sediment) during storms or strong wind events, techniques to control pollutant discharge, and an erosion control plan. Additionally, construction techniques and BMPs would be identified and implemented, as appropriate, to reduce the potential for runoff and exposure to hazardous materials.

Topsoil may be stripped from construction sites and stockpiled onsite for later reuse. Additionally, a Dust Control Prevention Plan or Construction Notification would be submitted for any landowner banking facilities which include 5 acres or more of disturbed surface area, therefore loss of topsoil would be minimized during construction (S.J.V.A.P.C.D. 2007). Operation of landowner banking

facilities would not create the potential for soil erosion or loss of topsoil since the recharge basins would be constructed in cultivated agricultural fields that are topographically flat. Therefore, with the implementation of a SWPPP and associated construction techniques and BMPs, Dust Control Plan or Construction Notification, as deemed necessary, the Project would result in a **less-than-significant** impact.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

The District is not located in a liquefaction or landslide zone (D.O.C. 2020b). Additionally, the area includes characteristically flat topography. The exact location of future landowner banking facilities is unknown at this time however, recharge basins and subsurface recharge projects would be constructed in existing agricultural lands which are unlikely to result in on or off-site landslide, lateral spread, subsidence, liquefaction or collapse. Additionally, no above ground facilities susceptible to possibility of collapse would occur.

The recharged groundwater will be extracted from wells at varying depths, at a wide range of locations within the District. The District manages water supplies through conjunctive use, and aquifers are recharged with surface water in wet years to offset the effects of pumping during dryer periods. The District employs strategies and management actions that balance the positive effects of recharge with the stress of pumping on the aquifer. One key strategy is to develop water exchanges and/or banking agreements with a specified quantity of “leave behind,” which is recharged but not recovered, resulting in a net increase in groundwater supplies. In this manner, the District manages water levels to reduce potential to cause subsidence.

To mitigate the potential for impacts due to subsidence caused by groundwater pumping for return water, the District is implementing these mitigation measures:

Mitigation Measure GEO-1: Monitor Groundwater Levels. The District will continue to monitor groundwater levels at multiple locations District-wide to document the effects of banking operations and groundwater pumping.

Mitigation Measure GEO-2: Conduct Subsidence Monitoring Surveys. In addition to North Kern’s subsidence monitoring program, the District will participate in other subsidence monitoring and mitigation programs, including basin-wide efforts coordinated through the Kern Groundwater Authority (KGA). The KGA has identified the area between FKC mileposts 130 to 137 as an Area of Interest and is seeking funding to install an extensometer to monitor subsidence. Monitoring parameters include groundwater level monitoring and ground-truthing of subsidence detected by Interferometric Synthetic Aperture Radar (InSAR), extensometer, or level surveying. In coordination with the Kern County Subbasin GSAs, North Kern will make operational adjustments or implement new management actions to mitigate impacts caused by their operation.

Mitigation Measure GEO-3: Develop Water Exchanges and/or Banking Agreements with Participating Landowners that Result in a Net Increase in District Water Supplies. The purpose of the Proposed Program is to expand groundwater recharge capacity within the District's boundaries to enhance groundwater resources for the benefit of the District, its landowners and water users. To this end, under the Proposed Program, the District will establish joint landowner groundwater banking agreements to incentivize landowners to share their privately-owned recharge facilities to increase in-district recharge capacity.

Implementing Mitigation Measures GEO-1 and GEO-2 enable the District to monitor potential for subsidence resulting from the Project. GEO-3 manages the banking program to result in a net positive contribution to the District's groundwater supplies. Therefore, the Proposed Program would have a **less-than-significant impact with mitigation**.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?

Soils underlying the District are primarily comprised of loams, sandy loams, loamy sands and areas of clay loam along the far eastern portion of the District. In general, most all of these soils are deep, well-drained, and low in clay content and therefore not considered expansive (NRCS 2022). Additionally, construction and operation of landowner banking facilities could not create a direct or indirect risk to life or property. There would be **no impact**.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?

The Proposed Program would not involve the use of septic tank or alternative wastewater systems. There would be **no impact**.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The District overlies generally Quaternary-period alluvial fan, basin, and marine terrace deposits from the Pleistocene-Holocene epochs (D.O.C. 1978). In general, most sedimentary rock formations that are of Pleistocene age or older throughout the Central Valley are paleontologically sensitive. Therefore, the Proposed Program has the potential to discover unknown paleontological resources during the construction of landowner banking facilities. The following mitigation measure has been identified to address this impact.

Mitigation Measure GEO-4: Avoid Potential Effects on Paleontological Resources.

If a paleontological resource is uncovered during Project implementation, all ground-disturbing work within 165 feet (50 meters) of the discovery shall be halted. A qualified paleontologist shall inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, no further effort shall be required. If the resource cannot be avoided and may be subject to further impact, a qualified paleontologist shall evaluate the resource and determine whether it is “unique” under CEQA, Appendix G, part VII. The determination and associated plan for protection of the resource shall be provided to the District for review and approval. If the resource is determined not to be unique, work may commence in the area. If the resource is determined to be a unique paleontological resource, work shall remain halted, and the paleontologist shall consult with the District staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA. Preservation in place (i.e., avoidance) is the preferred method of mitigation for impacts to paleontological resources and shall be required unless there are other equally effective methods. Other methods may be used but must ensure that the fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards under the direction of a qualified paleontologist. All recovered fossils shall be curated at an accredited and permanent scientific institution according to Society of Vertebrate Paleontology standard guidelines; typically, the Natural History Museum of Los Angeles County and University of California, Berkeley accept paleontological collections at no cost to the donor. Work may commence upon completion of treatment, as approved by the District.

Implementing Mitigation Measure GEO-4 would minimize the potential impact of destruction of paleontological resources or sites or unique geologic features from construction activities by halting construction activities if these resources are uncovered. Therefore, the Proposed Program would have a **less-than-significant with mitigation incorporated**.

3.9 Greenhouse Gas Emissions

#8. GREENHOUSE GAS EMISSIONS. Would the project:

#8 -a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#8 -b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.

3.9.1 Environmental Setting

On June 1, 2005, Governor Schwarzenegger announced Executive Order S-3-05, which established the following greenhouse gas (GHG) emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels
- By 2020, California shall reduce GHG emissions to 1990 levels
- By 2050, California shall reduce GHG emissions to 80% below 1990 levels

California's statewide reduction goals were subsequently revised by legislation (Assembly Bill 32 Health & Safety Code § 38500 et seq.) requiring California to reduce its overall GHG emissions to 1990 levels by 2020 and 40 percent below 1990 levels by 2030. GHGs were defined as carbon dioxide (C.O.2.), Methane, Nitrous Oxide, Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulfur Hexafluoride.

C.A.R.B. was appointed to develop policies to achieve this goal. Subsequently, Senate Bill 32 (Health & Safety Code § 38566) increased and extended the emission reduction mandate to 40 percent below 1990 levels by 2030. Executive Order B-55-18 set a target of statewide carbon neutrality by 2045. In 2017, C.A.R.B. published an updated Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target Scoping Plan.

Kern County has not adopted a local plan for reducing GHG emissions. The S.J.V.A.P.C.D. has adopted the Guidance for Valley Land-use Agencies Addressing GHG Emissions Impacts for New Projects under CEQA (S.J.V.A.P.C.D. 2009). Although the Guidance addresses stationary source and development Projects, the District has adopted it for construction-related Projects.

3.9.2 Discussion

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG emissions would be generated during the construction of future landowner banking facilities from the use of diesel-powered vehicles. As described in the Section 3.3 “Air Quality,” the SPAL screening tool would be used to estimate project emissions. If emissions are below 18,000 hp-hr, then impacts would be less than significant. If emissions are over 18,000 hp-hr then impacts would be potentially significant and therefore further CEQA analysis would be required.

The EPA’s mandatory reporting threshold for large sources of GHGs is 25,000 metric tons of C.O.₂ emitted annually. This threshold is approximately the amount of C.O.₂ generated by 5,281 passenger vehicles per year (EPA 2018). During construction of the landowner banking facilities, temporary GHG emissions would be generated from the use of equipment and vehicles operating, however, all such emissions would cease upon completion of construction. During operation of the Proposed Program, a small amount of additional energy may be necessary to convey landowner-purchased water through the District’s distribution system. However, GHG emissions as a result of the Proposed Program would not represent a substantial change in C.O.₂ production. Therefore, this impact would be **less than significant**.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Kern County has not adopted any local plans, policies, or regulations to reduce GHG, however, the Proposed Program would not conflict with state emissions reduction plans, policies, or regulations. Therefore, there would be **no impact**.

3.10 Hazards and Hazardous Materials

#9. HAZARDS AND HAZARDOUS MATERIALS. Would the project:

#9 -a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#9 -b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#9 -c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#9 -d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#9 -e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#9 -f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#9 -g. Expose people or structures, either directly or	Have Potentially	Have Less-than-Significant Impact	Have Less-than-	Have No Impact?

indirectly, to a significant risk of loss, injury or death involving wildland fires?	Significant Impact? No.	with Mitigation Incorporated? No.	Significant Impact? No.	Yes.
--	----------------------------	-----------------------------------	----------------------------	------

3.10.1 *Environmental Setting*

Prior to construction activities, hazards and hazardous materials database searches, included all data sources included in the Cortese List (enumerated in PRC Section 65962.5), would be conducted. These searches include the GeoTracker database, a groundwater information management system that is maintained by the Water Board; the Hazardous Waste and Substances Site List (i.e., the EnviroStor database), maintained by the California Department of Toxic Substances Control (DTSC); and EPA's Superfund Site database (DTSC 2022a and 2022b, Water Board 2022a and 2022b, CalEPA 2022). The District boundary is not located in an area identified as more likely to contain asbestos by the California Department of Conservation (D.O.C. 2000). This issue is not discussed further in this Programmatic IS/MND.

3.10.2 *Discussion*

a, b) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

During construction of the landowner banking facilities, work crews would use lubricants and fuels that may be stored, transported, and used to operate and maintain construction vehicles and equipment, however, this use would cease once the project is complete. Ongoing maintenance would include substances that are currently necessary for maintenance of the District's distribution system. Ongoing system maintenance could involve the use and storage of hazardous materials (e.g., fuels, fertilizers, insecticides), but use and storage would not increase as a result of the Proposed Program. Continued compliance with the existing usage, safe handling, and disposal requirements identified by the manufacturer along with compliance with applicable federal, state, and local regulations would limit the potential for an accident condition to occur that involves the release of hazardous materials into the environment. Since maintenance of existing facilities would remain similar to the current conditions, this impact would be **less than significant**.

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

The Lerdo Primary School is located within the District boundaries, therefore, construction could occur within one-quarter mile of an existing school. However, compliance with the existing usage, safe handling, and disposal requirements identified by the manufacturer along with compliance with applicable federal, state, and local regulations would limit the potential for an accident condition to occur that involves the release of hazardous materials within one-quarter mile of a school within the District's boundaries. This impact would be **less than significant**.

- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

Database searches will be conducted once specific locations for landowner banking facilities are known. However, future recharge basins would be constructed on privately-owned agricultural parcels, therefore, it is unlikely that these sites would be located on hazardous material sites. Therefore, there would be **less than significant**.

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?**

Kern County has established an Airport Land Use Compatibility Plan which has been incorporated into the General Plan (Kern County 2012). The purpose of the Airport Land Use Compatibility Plan is to establish procedures and criteria by which Kern County and affected incorporated cities can address compatibility issues when making planning decisions. There is one airport located adjacent to the District service area, the Minter Field Airport District, and future landowner banking facilities could be construction within Airport Influence Areas, specifically Approach/Departure (Zone B1), Extended Approach/Departure (Zone B2), and Common Traffic Pattern (Zone C), as designated in the Airport Land Use Compatibility Plan. These zone designations are identified by various levels of risk depending on proximity to runways and specify maximum land use densities and required amounts of open land (Kern County 2004b). According to the Airport Land Use Compatibility Plan, Zone B1 presents “substantial” level of risk and noise, Zone B2 present “significant” levels of risk and noise, and Zone C presents a “limited” level of risk and noise. Due to the use of the sites as recharge basins it’s unlikely that a safety hazard or excess noise for people working in the area would occur. Therefore, this impact would be **less than significant**.

- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

The Proposed Program does not include any activities that would impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. There would be **no impact**.

- g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?**

The Proposed Program does not include any activities that would increase the risk of wildland fire and the District is not located within a very high fire hazard severity zone (California Department of Forestry and Fire Protection (Cal Fire) 2007a and 2007b). There would be **no impact** related to wildfire risk.

3.11 Hydrology and Water Quality

#10. HYDROLOGY AND WATER QUALITY. Would the project:

#10 -a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? Yes.	Have Less-than-Significant Impact? No.	Have No Impact? No.
#10 -b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#10 -c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#10 -c. i. result in substantial erosion or siltation on- or off-site;	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#10 -c. ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#10 -c. iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#10 -c. iv. impede or redirect flood flows?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation	Have Less-than-Significant Impact? Yes.	Have No Impact? No.

		Incorporated? No.		
#10 -d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#10 -e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.

3.11.1 *Environmental Setting*

Water Quality

The Proposed Program is located within the jurisdiction of the Central Valley Regional Water Quality Control Board's (CVRWQCB) Water Quality Control Plan for the Tulare Lake Basin (Basin Plan) [within the North Kern and Kern Uplands hydrologic areas (CVRWQCB 2018) and within the high-priority, critically-overdrafted Kern County groundwater subbasin (5-22.14), as designated in the Department of Water Resources (DWR) Bulletin 118 (DWR 2016, DWR 2020)]. As this Proposed Program covers the entire District, the water quality discussion is representative of the entire District. To comply with the California state regulated SGMA of 2014, the District coordinated with the Shafter-Wasco Irrigation District to prepare a Management Area Plan (MAP). The MAP was written in conjunction with and in support of a GSP drafted on behalf of the KGA in coordination with other Groundwater Sustainability Agencies (GSAs) in the Kern County Subbasin (Subbasin) for inclusion in the KGA GSP. A detailed overview of the District's historical and current groundwater conditions including groundwater quality are included in the MAP and referenced for this Proposed Program.

Federal and State Drinking Water Standards in Title 22³ are predominantly referenced when discussing water quality standards. However, the predominant land use in North Kern is for agriculture and drinking water salinity limits are not protective enough for agriculture. For this reason, the State Water Resources Control Board (SWRCB's) Agricultural Water Quality Goals (Ag Goals) are also referenced for evaluation of groundwater quality in this area. The most applicable standard, Drinking Water Standard or Ag Goals are used as a reference point when discussing each constituent.

Groundwater conditions in North Kern were evaluated using a combination of 26 District representative wells and public water system data collected between 2010 and 2018 to characterize the groundwater basin that underlies the District. The District representative wells were selected

³ Title 22. The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010-4037), and Administrative Code (Sections 64401 et seq.), as amended.

from North Kern's existing monitoring network while water quality data from regulated drinking water systems was available through the State Drinking Water Information System (SDWIS)⁴. All available water quality data was evaluated to identify constituents of concern. Based on data evaluated 1,2,3-Trichloropropane (TCP), nitrate, and salinity are the primary constituents of concern for North Kern's service areas. Constituents related to salinity - chloride and sodium - are naturally occurring but concentrated by surface activities. Nitrate is predominately anthropogenic. TCP is a manmade chemical and completely anthropogenic.

The SWRCB reports that TCP contamination in the Central Valley is predominately from legacy pesticide applications of certain soil fumigants. Although TCP is prevalent throughout the Subbasin, there is less occurrence where the Corcoran Clay is present. As TCP is a surface contaminant, the presence of the Corcoran Clay acts as a barrier to prevent further vertical migration of TCP into the deeper aquifer. Of the public supply wells tested within the District's service area, about 92 percent have detections above the drinking water Maximum Contaminant Level (MCL) of 5 parts per trillion.

Nitrate is a primary drinking water standard with acute health effects. About 35 percent of North Kern's representative wells are over the drinking water MCL for nitrate (10 parts per million [ppm]), while 8 percent of the public water system wells are exceeding the MCL. Since nitrate is a surface contaminant, wells with shallow screened intervals or annular seals typically show the highest levels of contamination.

Salinity levels were observed to be highest along the eastern and southern portion of the North Kern. When following the flow of the groundwater gradient, which is westerly and northwesterly, an evident trend was observed. By evaluating sodium levels following the groundwater gradient across these spreading grounds, it was evident that the spreading grounds are providing dilution to the elevated sodium levels compared to wells located upstream. Wells within the spreading grounds or downstream of the spreading grounds had lower sodium levels. This trend shows the management action of groundwater recharge through spreading grounds improves the salinity levels for wells located downstream. While other groundwater contaminants commonly found throughout the Subbasin were evaluated, there was limited presence of most constituents in North Kern.

In addition to groundwater, which is only pumped when available surface water supplies are not sufficient, the District's primary source of water is surface water from the Kern River. Native sources such as streambed infiltration are considered minimal. Other available native sources are from precipitation, subsurface flow, and runoff. Supplemental water sources for North Kern include water received from the Poso Creek, Oilfield-Produced Water, CVP water and Water Banking Leave-Behind Water.

The Kern River is the primary source of surface water to North Kern and is diverted from the Kern River into the district either at the headgate of the Beardsley Canal or the headgate of the Calloway Canal. Surface water diverted from the Kern River originates from snowpack in the Sierra Nevada

⁴ State Water Board's Drinking Water Watch. <https://sdwis.waterboards.ca.gov/PDWWW/>.

Mountains, in particular the Kings-Kern Divide. The Kern River watershed covers approximately 2,300 square miles of the western slopes of the Sierras towards the southern end of the Central Valley. North Kern receives Kern River water through several contracts: the 1952 Agreement, the Kern Delta Settlement Agreement, and the City of Bakersfield Extension Contract (including the Kern River Canal and Irrigating Company supplies).

As part of what is known as the “1950 Project”, North Kern entered into an agreement in 1952 (the “1952 Agreement”) by which it purchased the right in perpetuity to divert and use Kern River water accruing to certain water rights identified in that agreement on a first-priority basis. This right is conditioned on both place and purposes of use. Further, the agreement places month-specific limits on the volume of water that can be diverted and used by North Kern in a given month. While this is North Kern’s principal source of Kern River water, it is not the only source. To the extent that Kern River water is used as a source of water for the Proposed Program, landowner credits will not include water diverted under the 1952 Agreement.

Kern River water contains low amounts of total dissolved solids (TDS) and minimal or negligible amounts of other water quality constituents that impact agricultural and/or domestic water use. Surface water quality monitoring is generally performed by Kern County Water Agency and California Water Services Company – Bakersfield and is considered representative of Kern River. **Table 3-5** provides a summary of available water quality data from SDWIS. As most beneficial use and users are for agriculture within the District, constituents with Ag Water Quality Goals were evaluated. The quality of the Kern River meets both drinking water standards and Ag Water Quality Goals.

Table 3-5. Kern River Water Quality (2011 – 2021)

Water Quality Constituent	Units	Drinking Water Standard/ Tulare Lake Basin Plan Limit	Ag Water Quality Goals	Kern County Water Agency – ID4 Raw Kern River ¹			CWS – Bakersfield NE Treatment Plant Influent ²		
				Min	Max	Avg	Min	Max	Avg
Arsenic	ppb	10	100	3.1	11.4	5.9	2.6	4.9	3.5
Boron	ppb	1000 (NL)	700	ND	250	125	132		
Chloride	ppm	250	106	1	14	6	3	10	7
Conductivity	uS/cm	900	700	58	362	163	131	250	207
Nitrate as N	ppm	10	10	ND	1.7	0.1	ND	0.4	0.1
Sodium	ppm	n/a	69	4	36	14	10	25	18
TDS	ppm	500	450	43	214	104	100	160	130

Source: CA Drinking Water Watch. <https://sdwis.waterboards.ca.gov/PDWW/index.jsp>. Accessed May 24, 2022.

¹ DDW PS Code: CA1510040_008_008

² DDW PS Code: CA1510003_252_252

ND = Not detected

ppm = parts per million

Other sources of District water supply include occasional diversions from the CVP via the FKC and State Water Project, and oilfield-produced water. North Kern also takes advantage of additional supplies from the State Water Project and the CVP, either directly or through exchanges with other agencies. It is assumed these water supplies would be available water sources for landowners' groundwater banking projects. However, oilfield-produced water would not be directly available to landowners as groundwater credits. Therefore, discussion on oilfield-produced water is not discussed further.

North Kern occasionally diverts water from the FKC during wetter years, either through temporary contracts with the USBR (e.g., Section 215), or more frequently through water banking and exchange programs with CVP contractors. The District is not a long-term CVP contractor; therefore, it does not receive CVP water unless purchases are made for Section 215 water. Historically, Section 215 water is available in exceptionally large water supply years (wet water years) and in infrequent and otherwise unmanaged flood flows of short duration to non-long-term contractors such as North Kern.

SGMA requires groundwater monitoring and identification of a monitoring network capable of collecting sufficient data to demonstrate short-term, seasonal, and long-term trends in groundwater and related surface conditions. SGMA defines “minimum thresholds for degraded water quality shall be the degradation of water quality, including the migration of contaminant plumes that impair water supplies or other indicator of water quality as determined by the Agency that may lead to undesirable results.”⁵ The District’s MAP identifies minimum thresholds, measurable objectives, and interim thresholds to be met during the implementation timeframe of the GSP.

⁵ [Department of Water Resources Groundwater Sustainability Plan Regulations §354.28\(c\)\(4\)](#)

To comply with SGMA, the District’s MAP identifies the nine wells within their monitoring network as listed in **Table 3-6**. These monitoring wells represent a uniform spatial distribution over the mainly agricultural portion of the District and were chosen based upon their location as it relates to cropping pattern recharge, domestic well locations, and the completeness of monitoring well information.

Table 3-6. Monitoring Well Network in North Kern

Well ID	Well Type	Monitoring Purpose	Data Collection Frequency	Measurable Objective (Elevation, feet)	Minimum Threshold (Elevation, feet)
88-03-009 ⁶	Supply well	Water Level & Quality	Semi-annual	-27	-77
88-09-009	Supply well	Water Level & Quality	Semi-annual	-41	-91
88-21-005	Supply well	Water Level & Quality	Semi-annual	-56	-131
88-29-014	Supply well	Water Level & Quality	Semi-annual	-57	-133
99-00-003	Supply well	Water Level & Quality	Semi-annual	49	-2
99-00-081	Supply well	Water Level & Quality	Semi-annual	-114	-192
99-22-084	Supply well	Water Level & Quality	Semi-annual	-135	-213
Shafter Well 18	Supply well	Water Level & Quality	Semi-annual	-29	-78
Future	Future	Water Level & Quality	Semi-annual	-154	-239

Source: District MAP 2019

Groundwater Conditions

The District is located in the north central portion of the Kern County Subbasin (5-22.14), which lies in the Tulare Lake Region of the Central Valley. The Tulare Lake Region encompasses the Central Valley subbasins from just north of Fresno to the Tehachapi Mountains and San Emigdio Mountains at the southern end of the valley; with the Sierra Nevada Mountains (Sierra Nevada) to the east, and the Coast Ranges to the west.

Within the District, a heterogeneous aquifer system contains water under unconfined conditions in the upper few hundred feet that grades into confined conditions with depth. Confinement is dependent on the extent of the clay layers. The 2012 Groundwater Management Plan (North Kern 2012) describes an upper zone of clay lenses as the “300-foot clay,” a middle zone of clay lenses as the “700-foot clay,” a lower zone of clay lenses at the “900-foot clay,” and a contact between

⁶ This well is collapsed and the District is in the process of replacing it.

oxidized and reduced sediments below the clays. The “300-foot clay,” a set of discontinuous clay lenses, allows for downward groundwater movement and appears to produce mildly semi-confined conditions rather than confined conditions in the underlying aquifer (North Kern 2012). Most supply wells are screened below the “300-foot clay.”

The prevailing groundwater gradient in the District is west to northwest toward the trough of the San Joaquin Valley indicating subsurface underflow through the District. This generalized pattern of groundwater underflow has persisted for many years and is consistent with historical water supply reports from KCWA and Ken Schmidt and Associates (North Kern 2012). Typically, groundwater elevations decline during dry years when surface water supplies are limited and recover or increase during wet years when surface water supplies satisfy a large portion of demands and are available for recharge.

Groundwater elevations in the spring of 2015, the baseline year for SGMA reporting, ranged from 140 feet mean sea level (msl) in the southeast to less than -50 feet msl northwest along Sherwood Avenue. The horizontal gradient to the west and northwest was approximately 0.002 ft/ft. Groundwater elevation contours for the fall of 2015 show groundwater flow toward the northwest again indicating subsurface underflow through the District. Elevations ranged from less than 120 feet msl in the southeast to less than -10 feet msl in the northwest. The horizontal gradient to the northwest was approximately 0.002 ft/ft, the same gradient observed in the spring.

SGMA requires that GSPs include plans to achieve sustainable groundwater management to avoid undesirable results, such as chronic depletion of groundwater, reduction of groundwater storage, water quality degradation, seawater intrusion, surface water depletions, or land subsidence. GSPs must also include long-term planning goals and measurable objectives with interim milestones in increments of 5 years that are designed to achieve the basin’s sustainability goals within 20 years of GSP implementation.

In the Kern Groundwater Authority GSP, several projects and management actions were developed to help address overdraft and move the Basin toward sustainability. This Proposed Program was specifically described in the GSP to improve groundwater conditions, “In wet years, when the District has utilized the full capacity of its recharge basins, it may be necessary for the District to seek other locations for the application of available surface water for groundwater recharge. The District will develop an incentive program to encourage landowners to take delivery of available surface water that is in excess of customer demand and the District’s capacity for recharge projects for application to fallow land and/or over-irrigation of crops to facilitate further groundwater recharge. Landowners will receive a groundwater credit in exchange for participation in this program, for their use. To implement an on-farm recharge incentive program, the District will develop program guidelines that have been approved by the District’s Board of Directors.”

Under the District’s MAP, the undesirable result for the chronic lowering of groundwater levels is “the point at which significant and unreasonable impacts over the planning and implementation horizon, as determined by depth/elevation of water, affect the reasonable and beneficial use of, and access to, groundwater by overlying users.” (GEI Consultants, Inc. [GEI] 2019) The minimum thresholds presented in the District’s GSP for the chronic lowering of groundwater levels are

selected to represent water levels that are just above conditions that could generate significant and unreasonable undesirable results in the Kern County Subbasin, to the extent possible given available information.

3.11.2 Discussion

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

It is assumed the participating landowners' source of water supply for their respective groundwater banking projects will be surplus surface waters, when available. As this Proposed Program is a groundwater banking program, it is not anticipated for any discharges to occur to surface waters; therefore, **no impact** regarding degradation to surface water quality is expected.

The Proposed Program would convey water for recharge that meets or exceeds Agricultural Water Quality Goals or Basin Plan standards for groundwater. Although surface water supplies available to landowners may include Kern River, CVP, and SWP, the analysis used Kern River water quality as representative of the various surface water supplies. Since the predominant beneficial use and users are for agriculture, water quality constituents with Ag Water Quality Goals were evaluated. The District's MAP indicated the constituents of concern for the District's service area includes TCP, nitrate, and salinity. When comparing general groundwater quality for these constituents within the District and the Kern River water quality, recharge of groundwater with Kern River is expected to benefit the groundwater quality. Kern River water quality for TCP, nitrate, and salinity meets and exceeds drinking water standards and Ag Water Quality Goals (Table 3-3). TCP is not detected, and nitrate has very low detections. Salinity constituent such as chloride, conductivity, sodium, and TDS have average concentrations below half the Ag Water Quality Goals. As observed within the District with respect to groundwater wells within and downstream of spreading grounds, the Proposed Program may improve groundwater quality in some areas of the District, by applying surface water of a higher quality than that of the existing groundwater.

The Proposed Program requires participating landowners to complete an application (Appendix A) and the District to complete the CEQA Checklist (Appendix B). One of the questions requires the participating landowner to identify the proposed water supply for recharge. This proposed Programmatic IS/MND assumes water supply for recharge will be surplus flows during wet years from the available surface water supplies into the District's service area, which may include Kern River, CVP, and SWP. If a different water supply for recharge other than the sources described in this Programmatic IS/MND, then additional CEQA documentation will be required.

All proposed projects will be individually evaluated for potential impacts to groundwater and water quality from known contamination sites. Prior to construction activities, hazards and hazardous materials database searches, included all data sources included in the Cortese List (enumerated in PRC Section 65962.5), would be conducted. These searches include the GeoTracker database, a groundwater information management system that is maintained by the Water Board; the Hazardous Waste and Substances Site List (i.e., the EnviroStor database), maintained by the DTSC; and EPA's Superfund Site database (DTSC 2022a and 2022b, Water Board 2022a and

2022b, CalEPA 2022). If this review finds potential for contaminants to be present on site, then Mitigation Measure Hydro-1 will be applied. If potential impacts to water resources cannot be mitigated to a level of less-than-significant through the standard mitigation measures, then additional CEQA review will be required.

The Proposed Program has the potential to impact groundwater, therefore, this impact is considered **potentially significant**. The following mitigation measures have been identified and would be implemented as needed depending on the results of each proposed facilities potential impacts.

Mitigation Measure HYDRO-1: Conduct Phase 1 Environmental Site Assessment.

If the hazards and hazardous materials database searches indicate the potential for contaminants to be present on-site, then a Phase 1 Environmental Site Assessment will be conducted to assess on-site contaminant risks.

Mitigation Measure HYDRO-2: Monitor Groundwater Quality.

The District will monitor groundwater quality at the monitoring wells listed in Table 3-6. If groundwater quality contamination is detected, further investigations will be implemented to determine the source of the contamination. If the source is associated with recharge at a landowner recharge facility, either the recharge facility will cease operation, or the contamination will be removed. With monitoring of groundwater quality during and post construction, the proposed Project will then not violate or have a **less-than-significant** impact to water quality standards or waste discharge requirements.

Mitigation Measure HYDRO-3: Monitor for Evidence of Soil Contamination.

During construction of the recharge basins, the contractor and inspecting engineer will monitor for evidence of soil contamination (color, odor, buried tanks, pipeline). If contaminated soils are encountered during excavation, these soils will be analyzed to identify the type and extent (vertically and horizontally) of contamination present. Contaminated soils will either be treated on site or disposed of at a hazardous waste landfill.

If contaminated soils are encountered during construction, additional groundwater monitoring wells may be installed to verify that groundwater has not been impacted. As an added measure of protection, the landowner will cease construction of the pond in and adjacent to contaminated soils.

Implementing Mitigation Measures HYDRO-1, HYDRO-2, and HYDRO-3 would reduce this impact to less-than-significant by monitoring groundwater quality and evidence of soil contamination. Therefore, the Proposed Program would have a **less-than-significant impact with mitigation incorporated**.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The Proposed Program would directly benefit groundwater supply in the project area by facilitating increased groundwater recharge, contributing to sustainable groundwater management in the

basin. The Proposed Program is considered a groundwater banking project and requires a portion of “leave-behind” water, similar to their existing groundwater banking programs. This impact would be **less-than-significant**.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i, ii, iii, iv) Result in substantial erosion or siltation on- or off-site; Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or Impede or redirect flood flows?

New construction to be performed under the Proposed Program would not alter existing drainage patterns and standard mitigation measures would be required to control erosion and surface runoff during construction. Only the District’s existing conveyance and distribution system would be used under the Proposed Program. Since new, above surface structures would be restricted to a limited number of small recharge basins, there is no possibility that the project would redirect flood flows. This would be **less-than-significant**.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The project is not located in a flood hazard, tsunami, or seiche zone, therefore there will be **no impact**.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The Proposed Program is not expected to conflict with or obstruct implementation of the Basin Plan. The primary goal of the Proposed Program is to expand groundwater recharge capacity within the District’s boundaries to enhance groundwater resources for the benefit of the District, its landowners and water users. This Proposed Program represents implementation of a portion of the projects described in the Kern Groundwater Authority’s GSP. Maximizing the importation of surface water into the district area for beneficial use by agriculture and to enhance sustainable groundwater management can contribute to sustainable water supply operation in the District’s service area, offering additional source of water for irrigation and potable use and reduced groundwater pumping. Therefore, the Proposed Program is expected to have **no impact** to the implementation of the Basin Plan.

The Proposed Program would benefit the District by facilitating in-District groundwater recharge and banking that would offer operational flexibility for implementation of the District’s GSP and would contribute to meeting or exceeding SGMA sustainability criteria for reducing degradation

of water quality and chronic lowering of groundwater levels. This would have **no impact** and would support successful implementation of the GSP.

3.12 Land Use and Planning

#11. LAND USE AND PLANNING. Would the project:

#11 -a. Physically divide an established community?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#11 -b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.

3.12.1 Environmental Setting

Future landowner banking facilities would be constructed on land zoned as Exclusive Agriculture and designated by the Kern County General Plan as Agriculture. The District is located in a predominantly rural area.

3.12.2 Discussion

a, b) Physically divide an established the community? Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The District service area includes approximately 60,000 acres of predominately agricultural land. The Proposed Program would not require construction within existing agricultural parcels. Due to the rural nature of these lands, construction or operation of landowner recharge facilities would not divide an established community. The Proposed Program would use the Districts existing water conveyance infrastructure to deliver water to landowner banking facilities to meet the project objectives of increasing flexibility in meeting water demands while also protecting groundwater levels and quality. A small portion of the District boundary overlaps the Metropolitan Bakersfield HCP; however, the project would not conflict with the objectives of the conservation plans (City of Bakersfield 2017). Additionally, the Proposed Program would not conflict with any land use plans as zoning would not change due to implementation of the project. There would be **no impact**.

3.13 Mineral Resources

#12. MINERAL RESOURCES. Would the project:

#12 -a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#12 -b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.

3.13.1 *Environmental Setting*

The District is located within a Surface Mining and Reclamation Act of 1975 study area for aggregate materials in the Bakersfield production-consumption region.

3.13.2 *Discussion*

a, b) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State? Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

The District is located in an area evaluated for Aggregate Materials in the Bakersfield Production-Consumption Region (USGS 1988). However, since the Proposed Program involves only construction within existing agricultural parcels the Proposed Program would not result in the loss of or preclude the recovery of an important mineral resource, there would be **no impact**.

3.14 Noise

#13. NOISE. Would the project:

#13 -a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable standards of other agencies?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#13 -b. Generation of excessive groundborne vibration or groundborne noise levels?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#13 -c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.

3.14.1 Environmental Setting

Some land uses are considered more sensitive to noise than others, and, thus, are referred to as sensitive noise receptors. Land uses often associated with sensitive noise receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Noise sensitive land uses are typically given special attention to achieve protection from excessive noise.

There are rural residential properties located within the District boundaries. The Kern County Code of Ordinances states that construction related noise is limited to the hours of 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekend (Kern County 2022).

3.14.2 Discussion

- a, b) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable standards of other agencies? Generation of excessive groundborne vibration or groundborne noise levels?**

The Proposed Program would be implemented within the District service area, which predominately consists of agricultural land. The existing District-owned conveyance system would be used to deliver water to landowner banking facilities, which would not generate any additional noise or vibration during use for conveyance of landowner-purchased water. However, construction of landowner banking facilities would generate noise and vibrations. While there would be an increase in ambient noise levels and groundborne vibration during construction activities, this increase would be temporary and would comply with the Kern County Code of Ordinances. Therefore, this impact would be **less than significant**.

- c) For a project located within-the vicinity of a private airstrip or-an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

See Section 3.9 Hazards and Hazardous Materials, Question “e”. There would be **no impact**.

3.15 Population and Housing

#14. POPULATION AND HOUSING. Would the project:

#14 -a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#14 -b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.

3.15.1 Environmental Setting

The District is located in unincorporated Kern County. In 2021, the population of Kern County was estimated to be 914, 193 in (Department of Finance 2021).

3.15.2 Discussion

a, b) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The Proposed Program would not facilitate or result in new population growth in the area and thus would not require additional housing, roads or other development-related infrastructure. In addition, the Proposed Program would result in no new long-term employment for the area that may necessitate growth since the work force for construction of future landowner banking facilities would likely come from the existing population. The Proposed Program could indirectly result in a long-term increase in water supply; however, this water would only be used for agricultural purposes and would not sustain an increased population. There would be **no impact** to population and housing.

3.16 Public Services

#15. PUBLIC SERVICES. Would the project:

#15 -a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
Police protection?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
Schools?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
Parks?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
Other public facilities?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.

3.16.1 Environmental Setting

The Kern County Sheriff and California Highway Patrol provide law enforcement services for unincorporated Kern County. The Kern County Fire Department provides fire protection to residents of the unincorporated areas of the County, and the cities of Arvin, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Tehachapi and Wasco (Kern County 2004b). A mutual agreement between the County and the cities of Bakersfield, Taft, and California City allows for protection and assistance in the jurisdiction of each as needed. The County also has a mutual aid contract with USFWS and a service agreement with the Bureau of Land Management.

3.16.2 Discussion

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

The Proposed Programmatic IS/MND located with the District boundaries, in the unincorporated area of Kern County. The District is comprised mostly of active agricultural lands. No new structures or land uses would result from project implementation, therefore there would be no need for modifications to police protection, or requirements for additional schools or park facilities. There would be **no impact**.

3.17 Recreation

#16. RECREATION. Would the project:

#16 -a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#16 -b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.

3.17.1 *Environmental Setting*

There are no recreational facilities within the agricultural lands that would be potential project locations within the District's service area.

3.17.2 *Discussion*

a, b) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated or include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Since there are no recreational facilities located on agricultural lands within the District, and the Proposed Program would not increase the area population nor otherwise affect the construction, use, or need for expansion of nearby recreational facilities, there would be **no impact**.

3.18 Transportation

#17. TRANSPORTATION. Would the project:

#17 -a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#17 -b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#17 -c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#17 -d. Result in inadequate emergency access?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.

3.18.1 Environmental Setting

The District is located in rural, unincorporated Kern County. The main transportation thoroughways are SR 43 and 99. There are no transit or on-street bicycle/pedestrian facilities within the District service area.

3.18.2 Discussion

a, b, c, d) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)? Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? Result in inadequate emergency access?

The Proposed Program would not conflict with any program plan, ordinance, or policies related to the circulation system. The Proposed Program would generate vehicles miles traveled (VMT) during construction activities, however, there would be no long-term increase in VMT. Future landowner banking facilities would not require the construction of new or altered roadways, therefore, no increase hazards due to a geometric design feature or incompatible uses would occur. Construction traffic would utilize existing public roads to deliver equipment, supplies, and workers to and from the Project sites. Because future landowner banking facilities would be constructed

within privately-owned agricultural parcels, they would not require any road closures or result in inadequate emergency access. Therefore, the Proposed Program would result in **no impact**.

3.19 Tribal Cultural Resources

#18. TRIBAL CULTURAL RESOURCES. Would the project

#18 -a. cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
#18 -a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.
#18 -b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.

3.19.1 Environmental Setting

Refer to the “Ethnographic Setting” in Section 3.8, “Cultural Resources.”

The District has not received any notice from California Native American tribes requesting consultation on projects per AB 52 (PRC Section 21080.3.1) and so no letters requesting consultation could be sent.

3.19.2 Discussion

- a, b) **Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k)? A**

resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Tribal Cultural Resources are either (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that is either on or eligible for inclusion in the CRHR or a local historic register; or (2) a resource that the lead agency, at its discretion and supported by substantial evidence, chooses to treat as a Tribal Cultural Resource. Additionally, a cultural landscape may also qualify as a Tribal Cultural Resource if it meets the criteria to be eligible for inclusion in the CRHR and is geographically defined in terms of the size and scope of the landscape. Other historical resources (as described in California PRC 21084.1), a unique archaeological resource (as defined in California PRC 21083.2[g]), or non-unique archaeological resources (as described in California PRC 21083.2[h]), may also be a Tribal Cultural Resource if it conforms to the criteria to be eligible for inclusion in the CRHR.

There are no known tribal cultural resources located in the District boundaries. However, as part of the approval process for future landowner banking facilities, the landowner and/or District would be required to obtain a record search of Indian Sacred Sites. Although unlikely due to the lack of California Native American tribes requesting consultation, if future record searches indicate an Indian Sacred Site the landowner would be required to start consultation with the tribe and implement all mitigation measures that are agreed upon. Therefore, this impact is considered to be **less than significant**.

3.20 Utilities and Service Systems

#19. UTILITIES AND SERVICE SYSTEMS. Would the project:

#19 -a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#19 -b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#19 -c. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#19 -d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#19 -e. Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.

3.20.1 Environmental Setting

The District service area is served by PG&E, Southern California Edison, and Southern California Gas (Kern County 2004a). Sewage disposal is handled by both public and private agencies, and by private individual systems. Several incorporated and unincorporated communities are served by wastewater treatment plants managed by community service districts. Domestic water is serviced to the public by various water purveyors consisting of public and private water systems. The Kern County Waste Management Department currently owns and operates seven Class II

Landfills, of which the closest landfill is the Shafter-Wasco Landfill located in Shafter. (Kern County 2004b).

3.20.2 Discussion

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?**

No utility services would need to be constructed or expanded as a result of the Proposed Program. The Proposed Program would use the existing District-owned water conveyance system and groundwater recharge facilities and where necessary the District would construction turnouts and any agreed upon appurtenance(s) to facilitate water conveyance. Future landowner recharge facilities would be constructed within existing agricultural parcels. Additionally, the Proposed Program would not require or result in new or expanded wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities. There would be **no impact**.

- b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?**

The Proposed Program would not require a water supply. The Proposed Program would increase the water supply available for agricultural use by allowing landowners to use the Districts water conveyance system and construction recharge basins to store landowner-purchases surface water. Therefore, the project would have **no detrimental impact** on water supply available within the District. There would be **no impact**.

- c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

There are no wastewater facilities associate with the Proposed Program. There would be **no impact**.

- d and e) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? Comply with Federal, State, and local management and reduction statues and regulations related to solid waste?**

The Proposed Program would not create substantial amounts of solid waste. Construction of recharge basins, turnouts, and appurtenance would generate soil and debris, the amount of which would be disclosed on the CEQA Checklist included as Appendix B, which was developed by the District. Debris would be disposed of at a Landfill within 50 miles of the District boundaries. No increase in waste products would occur during operation of the Proposed Program. The project would comply with all state, federal, and local management and reduction statues and regulations. There would be **no impact**.

3.21 Wildfire

#20. WILDFIRE. If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, **would the project:**

#20 -a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#20 -b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#20 -c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#20 -d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.

3.21.1 Environmental Setting

The District is not located in a high severity fire hazard zone. The Kern County Fire Department provides fire protection for residents of the unincorporated areas of the County and the cities of Arvin, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Tehachapi and Wasco (Kern County 2004b).

3.21.2 Discussion

a, b, c, and d) Substantially impair an adopted emergency response plan or emergency evacuation plan? Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The Proposed Program would be implemented within the District service area, which is comprised mostly of active agricultural production. The District is not located within a very high fire hazard severity zone (Cal Fire 2007a and 2007b). There would be **no impact** related to wildfire risk.

3.22 Mandatory Findings of Significance

#21. MANDATORY FINDINGS OF SIGNIFICANCE. Would the project:

#21 -a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? Yes.	Have Less-than-Significant Impact? No.	Have No Impact? No.
#21 -b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.
#21 -c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.

3.1.1 Discussion

- a) **Would the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?**

The Proposed Program would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; or threaten to eliminate a plant or animal community, primarily due to the fact that all future recharge basins would be constructed within existing agricultural

parcels. Because agricultural lands dominate the District and the larger region, a substantial amount of habitat for the common wildlife species that occur in these lands would persist. In addition, no fish habitat would be affected. Implementing the Proposed Program could adversely impact nesting birds, if construction occurs during the nesting season. Loss of active nests of species that are not considered to have special status and addressed in Section 3.4, “Biological Resources,” would not substantially reduce their abundance or cause them to drop below self-sustaining levels. Therefore, potential impacts on common nesting birds would not alone constitute a significant impact. However, the District acknowledges that it is responsible for ensuring project implementation does not violate the Migratory Bird Treaty Act or Fish and Game Code. As evaluated in Section 3.4, “Biological Resources,” there could be significant impacts to endangered, rare, or threatened species, however, Mitigation Measures BIO-1 through BIO-9 would be implemented to reduce these potential impacts to less than significant.

As discussed in Section 3.5, “Cultural Resources,” the Proposed Program would not eliminate important examples of the major periods of California history or prehistory. The impact would be less than significant.


b) Would the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

As discussed in this IS, the Proposed Program would result in **less-than-significant impacts, or no impacts** on aesthetics, agriculture and forestry, air quality, biological resources, cultural resources, energy, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, and wildfire.

Additionally, based on review of the Agreement and the District’s GSP, and an understanding of the current condition of groundwater resources in the region, the project would **have no detrimental impact** on local and regional groundwater sustainability and would support successful implementation of the District’s GSP. Because improvements to groundwater management can have regional implications, the Proposed Programs’ facilitation of groundwater recharge, and indirect positive effects on groundwater levels and quality could have a positive impact on implementation of nearby entities GSPs and improve regional water supply reliability, because groundwater recharge projects in a regional aquifer system have the potential for regional impact whether small, large, or cumulative. This project would be integral to increasing groundwater sustainability in the District by supporting reduced demand in dry years due to increased capacity for recharge and banking capacity in the District and would have a cumulatively considerable positive impact

c) Would the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

The Proposed Program would not cause substantial adverse effects on human beings, either directly or indirectly for air quality and GHG emissions. The project would have a **less-than-significant** impact.



This page intentionally left blank.

4.0 References

Chapter 1. Introduction

No references cited.

Chapter 2. Project Background and Need

No references cited.

Chapter 3. Environmental Checklist

Chapter 3.1. Project Information

No references cited.

Chapter 3.2. Environmental Factors Potentially Affected

No references cited.

Chapter 3.3. Determination

No references cited.

Chapter 3.4. Aesthetics

No references cited.

Chapter 3.5. Agriculture and Forestry Resources

No references cited.

Chapter 3.6. Air Quality

C.A.R.B. California Air Resource Board. 2020. *Air Quality Trend Summaries*. Available:
<https://www.arb.ca.gov/adam/> Accessed: June 30, 2021.

_____. 2018. *Maps of State and Federal Area Designations*. Available:
<https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>
Accessed: June 30, 2021.

_____. 2016. *Ambient Air Quality Standards (CAAQS)*. Dated 5/4/16. Available:
<http://www.arb.ca.gov/research/aaqs/aaqs2.pdf> Accessed: June 30, 2021.

S.J.V.A.P.C.D. 2007. *Compliance Assistance Bulletin, Fugitive Dust Control at Construction Sites: New Requirements*. April, 2007.
<http://www.valleyair.org/busind/comply/pm10/forms/RegVIIIICAB.pdf>

_____. 2012. *Small Project Analysis Level (SPAL)*. Available:
<http://www.valleyair.org/transportation/CEQA%20Rules/Small-Project-Analysis-Levels-for-Ambient-Air-Quality-Analysis-Combust.pdf> Accessed: April 1, 2022.

Chapter 3.7. Biological Resources

California Department of Fish and Game (CDFG). 2012. *Staff Report on Burrowing Owl Mitigation*. State of California Natural Resources Agency, Sacramento, CA. Available at: <https://wildlife.ca.gov/Conservation/Survey-Protocols>. Accessed June 7, 2022.

CDFW (California Department of Fish and Wildlife). 2015. *California Department of Fish and Wildlife (Department) Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 2015*. Available at: <https://wildlife.ca.gov/Conservation/Survey-Protocols>. Accessed June 7, 2022.

_____. 2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*. Available at: <https://wildlife.ca.gov/Conservation/Survey-Protocols>. Accessed June 7, 2022.

_____. 2022. Results of electronic database search for sensitive species occurrences. Version 5. Biogeographic Data Branch. Available at: <https://wildlife.ca.gov/Data/CNDDDB>. Accessed June 3, 2022.

CNPS (California Native Plant Society). 2021. Inventory of Rare and Endangered Plants. Online edition, v8-03 0.38. Sacramento, CA. Available at <http://www.rareplants.cnps.org>. Accessed June 3, 2022.

City of Bakersfield. 1994. *Metropolitan Bakersfield Habitat Conservation Plan*.

_____. 2002. *Metropolitan Bakersfield General Plan*. Available at: <https://www.bakersfieldcity.us/271/Adopted-Planning-Documents>. Accessed June 7, 2022.

ICF. 2013a. Modeled habitat for Bakersfield cactus. Available at: http://www.bakersfieldhcp.us/Modeled%20Habitat/Modeled%20Habitat/Modeled%20Habitat_Bakersfield_Cactus_figure.pdf. Accessed June 7, 2022.

_____. 2013b. Modeled habitat for blunt-nosed leopard lizard. Available at: http://www.bakersfieldhcp.us/Modeled%20Habitat/Modeled%20Habitat/Modeled%20Habitat%20blunt_nosed_leopard_lizard_figure.pdf. Accessed June 7, 2022.

_____. 2013c. Modeled habitat for blunt-nosed leopard lizard. Available at: http://www.bakersfieldhcp.us/Modeled%20Habitat/Modeled%20Habitat/Modeled%20Habitat_san_joaquin_antelope_squirrel_figure.pdf. Accessed June 7, 2022.

- _____. 2014. Modeled habitat for Tipton kangaroo rat. Available at: http://www.bakersfieldhcp.us/Modeled%20Habitat/Modeled%20Habitat/Modeled%20Habitat_tipton_kangaroo_rat.pdf. Accessed June 7, 2022.
- Kern County Planning Department. 2006. *First Public Draft, Kern County Valley Floor Habitat Conservation Plan*. Prepared by Garcia and Associates, Lompoc, CA.
- _____. 2009. *Kern County General Plan*. Available: https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGP_Complete.pdf. Accessed June 7, 2022.
- Swainson's Hawk Technical Advisory Committee. 2000. *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*. Available at <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83990&inline>. Accessed June 7, 2022.
- USFWS (United States Fish and Wildlife Service). 2011. *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance*. Sacramento Fish and Wildlife Office, Sacramento, CA. Available at: <https://wildlife.ca.gov/Conservation/Survey-Protocols>. Accessed June 7, 2022.
- _____. 2022. *IPaC Resoure List*. Generated at <https://ecos.fws.gov/ipac/> on June 3, 2022.

Chapter 3.8. Cultural Resources

- Cook, S.F. 1955. The Aboriginal Population of the San Joaquin Valley, California. *Anthropological Papers* 16(2). University of California Press, Berkeley and Los Angeles, CA.
- Davis, Owen K. 1999. Pollen Analysis of Tulare Lake, California: Great Basin-like vegetation in Central California during the full-glacial and early Holocene. *Review of Palaeobotany and Palynology* 107(3-4):249-257.
- Elliott, Wallace W. & Co. 1883. *History of Kern County, California with Illustrations*. Wallace W. Elliott & Co., San Francisco, CA.
- Fredrickson, David A. 1994. Spatial and Cultural Units in Central California Archaeology. In *Toward a New Taxonomic Framework for Central California Archaeology: Essays by James A. Bennyhoff and David A. Fredrickson*, edited by Richard E. Hughes, 25-47. Contributions of the University of California Archaeological Research Facility, No. 52. Berkeley: University of California Press.
- Galloway and Riley. 1999. Areas Susceptible to Irrigation-Induced Selenium Contamination of Water and Biota in the Western United States.
- Hartzell, L. L. 1992. *Hunter-Gatherer Adaptive Strategies and Lacustrine Environments in the Buena Vista Lake Basin, Kern County, California*. Ph. D. dissertation, University of California, Davis.

- JRP Historical Consulting Services (JPR) and California Department of Transportation (Caltrans). 2000. *Water Conveyance Systems in California: Historic Context Development and Evaluation Procedures*. Sacramento, CA.
- Kern County Centennial Observance Committee. 1966. *Kern County Centennial Almanac*. Kern County Centennial Observance Committee, Bakersfield, CA.
- Moratto, Michael J. 1984. *California Archaeology*. Academic Press, Inc., San Francisco, CA.
- Morgan, Wallace M., 1914. *History of Kern County*. California. Historic Record Company, Los Angeles, CA.
- NetrOnline. 2017. Historic Aerials for 1968, 1969, 1994, 2005 and 2009. Available at www.historicaerials.com, accessed March 2017.
- Wallace, W. J., and F. A. Riddell. 1991. *Contributions to Tulare Lake Archaeology I: Background to a Study of Tulare Lake's Archaeological Past*. Redondo Beach: Tulare Lake Archaeological Research Group.
- Rosenthal, Jeffrey S., Gregory G. White, and Mark Q. Sutton. 2007. The Central Valley: A View from the Catbird's Seat. In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, 147-164. New York, NY: Altamira Press.
- U.S. Bureau of Reclamation (Reclamation). 2007. *Reclamation: Managing Water in the West. California's Central Valley Project. Historic Engineering Features to 1956*. A Multiple Documentation Form. June 2007. U.S. Department of the Interior, Bureau of Reclamation.
- _____. 2017. "Welcome to the Cawelo Water District." Available at <http://www.cawelowd.org/>, accessed June 13.
- U.S. Geological Survey (USGS). 1968. *Famosa, Calif.* 7.5 minute map.
- U.S. Geological Survey (USGS). 1970. *Famosa, Calif.* 7.5 minute map.
- Wallace, William J. 1978. Southern Valley Yokuts. In *Handbook of North American Indians*, Vol. 8, edited by Robert F. Heizer, 448-461. Washington, D.C.: Smithsonian Institution.
- _____. 1990. Another Look at Yokuts Pottery Making. In *Hunter-Gatherer Pottery from the Far West*, edited by J. M. Mack, pp. 171-178. Nevada State Museum Anthropological Papers no. 23.

Chapter 3.9. Energy

- California Energy Commission (CEC). 2020. *Electricity Consumption by County*. Available: <http://www.ecdms.energy.ca.gov/elecbycounty.aspx> Accessed: April 1, 2022.
- Kern County. 2004a. *Kern County General Plan*. Available: <https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGP.pdf> Accessed: April 1, 2022.

Chapter 3.10. Geology and Soils

California Department of Conservation (D.O.C.). 1978. *Geologic Atlas of California-Bakersfield Sheet*. Available: <https://maps.conservation.ca.gov/cgs/gmc/> Accessed: August 8, 2020.

_____. 2010. *Fault Activity Map of California*. Available: <https://maps.conservation.ca.gov/cgs/fam/>. Accessed: August 8, 2020.

_____. 2015. *CSG Warehouse Information*. Available: <https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatory> maps Accessed: March 26, 2021.

_____. 2020a. *Earthquake Zones of Required Investigation and Earthquake Fault Zones, Landslides, and Liquefaction Zones*. Available: <https://maps.conservation.ca.gov/cgs/EQZApp/app/>. Accessed: August 8, 2020.

_____. 2020b. *Landslides, and Liquefaction Zones*. Available: <https://maps.conservation.ca.gov/cgs/EQZApp/app/>. Accessed: August 8, 2020.

Natural Resources Conservation Services (NRCS). 2020. *U.S. Department of Agriculture Natural Resources Conservation Service. Web Soil Survey*. Available: <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed: August 8, 2020.

S.J.V.A.P.C.D. 2007. *Compliance Assistance Bulletin, Fugitive Dust Control at Construction Sites: New Requirements*. April, 2007. Available: <http://www.valleyair.org/busind/comply/pm10/forms/RegVIICAB.pdf>

Smith. 1964. *Geologic Map of California, Bakersfield Sheet*. Available: https://www.conservation.ca.gov/cgs/Documents/Publications/Geologic-Atlas-Maps/GAM_002-Map.pdf Accessed: April 1, 2022.

Chapter 3.11. Greenhouse Gas Emissions

U.S. Environmental Protection Agency (EPA). 2018. *Greenhouse Gas Emissions Vehicle Guide*. Available: <https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle>. Accessed: April 1, 2022.

Chapter 3.12. Hazards and Hazardous Materials

California Department of Forestry and Fire Protection (Cal Fire). 2007a. *Kern County Fire Hazard Severity Zones in SRA Map*. Available: https://osfm.fire.ca.gov/media/6687/fhszs_map15.pdf, Accessed: April 1, 2022.

_____. 2007b. *Kern County Fire Hazard Severity Zones in LRA*. Available: https://osfm.fire.ca.gov/media/6686/fhszl06_1_map15.pdf. Accessed: April 1, 2022.

California Department of Toxic Substances Control. (DTSC) 2022a. *Envirostor Hazardous Waste and Substances Site List (Cortese)*. Available: [https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+\(CORTESE\)](https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+(CORTESE)). Accessed: April 1, 2022.

_____. 2022b. *Cortese List: Section 65962.5(a)*. Available: <https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5a/>. Accessed: April 1, 2022.

CalEPA. California Environmental Protection Agency. 2022. *Sites Identified with Waste Constituents Above Hazardous Waste Levels Outside the Waste Management Unit*. Available: <https://calepa.ca.gov/wp-content/uploads/sites/6/2016/10/SiteCleanup-CorteseList-CurrentList.pdf>. Accessed: April 1, 2022.

California State Water Resources Control Board (SWRCB). 2022a. *GeoTracker Database*. Available: https://geotracker.waterboards.ca.gov/map/?global_id=T0601700073. Accessed: April 1, 2022.

_____. 2022b. *CDO-CAO List*. Available: <https://calepa.ca.gov/wp-content/uploads/sites/6/2016/10/SiteCleanup-CorteseList-CDOCAOList.xlsx>. Accessed: April 1, 2022.

California Department of Conservation (D.O.C.). 2000. *A General Location Guide for Ultramafic Rocks in California - Areas More Likely to Contain Naturally Occurring Asbestos, 2000, Map scale 1:1,100,000, Open-File Report 2000-19*. Available: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/ofr_2000-019.pdf. Accessed: April 1, 2022.

Kern County. 2012. *Airport Land Use Compatibility Plan*. Available: <https://psbweb.co.kern.ca.us/planning/pdfs/ALUCP2012.pdf> Accessed: April 1, 2022

Chapter 3.13. Hydrology and Water Quality

California Department of Conservation (D.O.C.). 2021. *Tsunami Zones*. Available: <https://www.conservation.ca.gov/cgs/tsunami/maps>. Accessed: May 13, 2022.

California Department of Water Resources (DWR). 2016. *Bulletin 118 -Interim Update*. Available: <https://water.ca.gov/Programs/Groundwater-Management/Bulletin-118> Accessed: May 13, 2022.

_____. 2016. *Groundwater Sustainability Plan Regulations*. Available: [https://govt.westlaw.com/calregs/Document/IC069338CA8EC463A8CAD33B227AA3871?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=\(sc.Default\)](https://govt.westlaw.com/calregs/Document/IC069338CA8EC463A8CAD33B227AA3871?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)). Accessed: May 18, 2022.

- _____. 2020. Groundwater Basin Prioritization. Available: <https://gis.water.ca.gov/app/bp-dashboard/final/>. Accessed: May 13, 2022.
- North Kern Water District (District). 2021. Agricultural Water Management Plan (AWMP), October.
- Kern River Watershed Coalition Authority (KRWCA). 2015. Groundwater Quality Assessment Report GAR, February 2015. Available: https://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/water_quality/coalitions_submittals/#kern. Accessed: May 13, 2022.
- Central Valley Regional Water Quality Control Board (CVRWQCB). 2015. Waste Discharge Requirements Order R5-2015-0127 for California Resources Production Corporation and North Kern Water Storage District Oil Field Produced Water Reclamation Project. December.
- _____. 2019. Amending Waste Discharge Requirements Order R5-2019-0025 for Oil Field Produced Water Reclamation Projects. April.
- _____. 2013. Waste Discharge Requirements General Order for Growers within the Tulare Lake Basin Area that are Members of a Third-Party Group Order R5-2013-0120-09. Revised April 2021. https://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/tentative_wdrs/r5-2013-0120-09_tentative.pdf. Accessed: May 13, 2022.
- _____. 2018. Water Quality Control Plan for the Tulare Lake Basin. May 2018. Available: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/tlbp_201805.pdf. Accessed: May 13, 2022.
- FEMA. Federal Emergency Management Agency. 2021. National Flood Hazard Layer Flood Insurance Rate Maps, Kern County, CA. Available: <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-119.26894024414047,35.36482602679947,-118.60426739257885,35.644313946611234>. Accessed: May 13, 2022.
- GEI Consultants, Inc. 2019. North Kern Water Storage District and Shafter-Wasco Irrigation District Management Area Plan. December. Available: <https://sgma.water.ca.gov/portal/gsp/preview/36>. Accessed: May 13, 2022.
- _____. 2020. Kern Groundwater Authority Groundwater Sustainability Plan. January. Available: <https://sgma.water.ca.gov/portal/gsp/preview/36>. Accessed: May 13, 2022.

Chapter 3.14. Land Use and Planning

City of Bakersfield. 2017. *Bakersfield Habitat Conservation Plan Notice of Intent/Notice of Preparation of Environmental Impact Statement/Report*. Available:
http://www.bakersfieldhcp.us/pdfs/BHCP%20NOINOP_Signed.pdf Accessed: April 1, 2022.

Chapter 3.15. Mineral Resources

United States Geologic Survey (USGS). 1988. *Mineral Land Classification: Aggregate Materials in the Bakersfield Production-Consumption Region*.

Chapter 3.16. Noise

Kern County. 2022. *Kern County Municipal Code*. Available:
https://library.municode.com/ca/kern_county/codes/code_of_ordinances?nodeId=TIT8H ESA_CH8.36NOCO Accessed: April 1, 2022.

Chapter 3.17. Population and Housing

Department of Finance. 2021. *E-1 Cities, Counties, and State Population Estimates with Annual Percent Change – January 1, 2020 and 2021*. Available:
<https://dof.ca.gov/forecasting/demographics/estimates-e1/> Accessed: April 21, 2022.

Chapter 3.18. Public Services

No references cited.

Chapter 3.19. Recreation

No references cited.

Chapter 3.20. Transportation

No references cited.

Chapter 3.21. Tribal Cultural Resources

No references cited.

Chapter 3.22. Utilities and Service Systems

Kern County. 2004a. *Kern County General Plan*. Available:
<https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGP.pdf> Accessed: April 21, 2022.

_____. 2004b. *Volume I Recirculated Draft Program Environmental Impact Report*. Available:
https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGP_RPEIR_vol1.pdf Accessed: April 21, 2022.

Chapter 3.23. Wildfire

California Department of Forestry and Fire Protection (Cal Fire). 2007a. *Kern County Fire Hazard Severity Zones in SRA Map*. Available:

https://osfm.fire.ca.gov/media/6687/fhszs_map15.pdf Accessed: April 1, 2022.

_____. 2007b. *Kern County Fire Hazard Severity Zones in LRA*. Available:

https://osfm.fire.ca.gov/media/6686/fhszl06_1_map15.pdf. Accessed: April 1, 2022.

Kern County. 2004b. *Volume I Recirculated Draft Program Environmental Impact Report*.

Available: https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGP_RPEIR_vol1.pdf

Accessed: April 21, 2022.

Chapter 3.24. Mandatory Findings of Significance

No references cited

This page intentionally left blank.

5.0 Report Preparers

Ginger Gillin – Senior Environmental Project Manager/Reviewer. GEI Consultants, Inc.

Nicholas Tomera – Project Manager, GEI Consultants, Inc.

Christine Russo – Environmental Planner. GEI Consultants, Inc.

Ryan Snyder – GIS Specialist. GEI Consultants, Inc.

David Miller, P.E., Ph. D. – Agricultural Engineer, GEI Consultants, Inc.

Jackie Takeda – Water Quality Specialist. GEI Consultants, Inc.

Anne King, Biologist – GEI Consultants, Inc.

This page intentionally left blank.

Appendix A Program Application for Landowner Groundwater Banking Projects

North Kern Water Storage District
Landowner Groundwater Recharge and
Banking Project
Program Application
(To be completed by landowner)



A. Purpose

The purpose of this application is to provide North Kern Water Storage District (District or North Kern) with information necessary to determine whether to accept the proposed groundwater recharge facility into the District's Landowner Banking Program. This application is also intended to assist District in assessing the project's coverage under the previously prepared CEQA Programmatic Initial Study/Mitigation Negative Declaration (Programmatic IS/MND).

Please provide as much information as is readily available and attach additional pages if necessary.

B. Project Description

Please provide the following project information:

1. Project Applicant(s): _____
2. Property Owner(s): _____
3. Project Address and Tax Assessor Parcel Number(s): _____

4. Application is for: (check one) _____ a surface groundwater recharge pond or _____ a subsurface groundwater recharge facility.
5. Application is for: (check one) _____ new construction or _____ an existing groundwater recharge facility.
6. Site Description, including all known physical characteristics such as size, current land use, zoning, proposed future land use. Please attach a map of the site location.

7. Project Description. Include planned design of the surface or subsurface facility to the extent known. Subsurface facility design is the responsibility of the applicant. North Kern may opt to support the development of the design of surface facilities. Attach additional sheets if necessary and include a plan view illustration if possible.

8. Proposed water supply for recharge. Describe source and proposed conveyance to the project site.

9. Proposed recovery location. Describe location of recovery wells (existing or planned) and proposed conveyance from wells to place of use.

10. Is the project larger than 1 acre in size? (check one) _____ Yes or _____ No.

If yes, prior to start of construction, applicant must obtain an N.P.D.E.S. construction activity general permit

11. Is the project larger than 5 acres in size? (check one) _____ Yes or _____ No.

If yes, prior to start of construction, applicant must prepare a Dust Control Prevention Plan

12. Air Quality and Greenhouse Gases. The S.J.V.A.P.C.D. has published guidance on assessing construction projects to determine if they fall below the Small Project Analysis Level (SPAL) threshold (S.J.V.A.P.C.D. 2012) of 18,278 horsepower hours (hp-hr) per day. Please describe the type of equipment and number of pieces of equipment that will be used during each phase of construction. In order to assess if this proposed project falls within the SPAL threshold, please fill out Table 1 with the number of pieces of equipment that will be used for each phase of construction and the number of hours per day the equipment will be in use. Please list the equipment for mobilization, construction, operation, and maintenance phases separately. If equipment will be use which is not listed here, please add to the list.

Table 1. Equipment List for Air Quality Analysis

Equipment Type	Number of Units	Estimated Hours of Use per Day
Mobilization		
Semi Truck (equipment delivery)		
Construction		
Excavator		
Loader		
Dozer		
Pickup truck		
Scraper		
Bell truck with box scraper		
Water truck		
Operation		
Pickup truck		
Maintenance		
Excavator		
Loader		
Dozer		
Pickup truck		
Scraper		
Bell truck with box scraper		
Water truck		

13. Biological Resources. Prior to approval into the North Kern Water Storage District Landowner Banking Program, all proposed projects must be evaluated for potential impacts to sensitive biological resources. The District will conduct site-specific biological field surveys and information review to evaluate potential for each site to support sensitive biological resources, including special-status species and habitat that falls under jurisdiction of one or more regulatory agency.

Standard mitigation measures will be applied to all proposed projects that require construction, based on the results of the field surveys and informational review. Standard mitigation measures are found in Table 1 of the CEQA Consistency Checklist.

Applicant's authorization of the District's biological evaluation (all on-site surveys will be coordinated with the landowner prior to arriving on-site):

Name	Signature	Title	Date
------	-----------	-------	------

14. Cultural Resources. Prior to approval into the North Kern Water Storage District Landowner Banking Program, all proposed projects must be evaluated for potential impacts to cultural resources. The District's evaluation will include a review of existing data stored in the Southern San Joaquin Valley Information Center. The District will also undertake a reconnaissance level field survey of the proposed project site.

Standard mitigation measures will be applied to proposed projects, based on the results of the field surveys. Standard mitigation measures are found in Table 2.

Applicant's authorization of the District's cultural resource evaluation (all on-site surveys will be coordinated with the landowner prior to arriving on-site):

Name	Signature	Title	Date
------	-----------	-------	------

15. Hydrology and Water Quality. Prior to approval into the North Kern Water Storage District Landowner Banking Program, all proposed projects must be evaluated for potential impacts to groundwater and water quality. The District's evaluation will include a review of existing data on groundwater quality and known contaminated sites.

Standard mitigation measures will be applied to proposed projects, based on the results of the review of existing data. Standard mitigation measures are found in Table 1 of the CEQA Consistency Checklist.

Applicant's authorization of the District's Phase 1 Environmental Site Assessment if found to be necessary (Mitigation Measure Hydro-1) (all on-site surveys will be coordinated with the landowner prior to arriving on-site):

Name	Signature	Title	Date
------	-----------	-------	------

Appendix B CEQA Consistency Checklist for Landowner Groundwater Banking Projects

North Kern Water Storage District

Landowner Groundwater Recharge and Banking Project

CEQA Consistency Checklist

(To be completed by North Kern Water Storage District)



Introduction

The North Kern Water Storage District (District or North Kern) approved a Programmatic Initial Study Mitigated Negative Declaration (Programmatic IS/MND) for the construction and operation of Landowner Groundwater Banking Projects in the District (Project). The Programmatic IS/MND analyzed the environmental impacts of the Project. In accordance with CEQA Guidelines Section 15168, the Programmatic IS/MND evaluated the Project's impacts with regard to the following environmental resources and subjects:

- Aesthetics
- Agriculture and Forest Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities Service Systems
- Wildfire

The Programmatic IS/MND evaluated the direct and indirect impacts, as well as the project-specific and cumulative impacts, that would result from the implementation of the project. At this level, air quality, cultural resources, biological resources, geology, hydrology and water quality were potentially significant issues identified and the Programmatic IS/MND set forth feasible mitigation measures to mitigate impacts.

Pursuant to CEQA Guidelines Section 15168(c)(4), the following checklist was prepared to determine whether the environmental effects of a specific landowner banking project is within the scope of the previously approved Programmatic IS/MND. If yes, then the Programmatic IS/MND can be used for the CEQA determination on that project. If not, additional CEQA review may be required.

Air Quality and Greenhouse Gases

Based on information provided by applicant, will the proposed project remain below the Small Project

Analysis Level (SPAL) of 18,278 maximum horsepower-hours per day? If yes, then the Programmatic IS/MND can be used for the CEQA determination for potential air quality and greenhouse gas impacts. If no, then additional CEQA review is required. Circle one:

No (additional CEQA Review required)

Yes (Programmatic IS/MND can be used for the CEQA determination)

Mitigation Measure AQ-1 (Table 1) applies to all new recharge projects requiring construction. Attach SPAL calculation to this checklist.

Biological Resources

Can potential impacts to biological resources be mitigated to a level of less-than-significant through implementation of standard mitigation measures? If yes, then the Programmatic IS/MND can be used for the CEQA determination for potential biological resource impacts. If no, then additional CEQA review is required. Circle one:

No (additional CEQA Review required)

Yes (Programmatic IS/MND can be used for the CEQA determination)

Specify the standard mitigation measures which apply to this project: _____

Attach results of biological resources review to this checklist.

Cultural Resources

Can potential impacts to cultural resources be mitigated to a level of less-than-significant through implementation of standard mitigation measures? If yes, then the Programmatic IS/MND can be used for the CEQA determination for potential cultural resource impacts. If no, then additional CEQA review is required. Circle one:

No (additional CEQA Review required)

Yes (Programmatic IS/MND can be used for the CEQA determination)

Attach results of cultural resources review to this checklist.

Mitigation Measure CR-1 (Table 1) applies to all new recharge projects requiring construction. Mitigation Measure CR-2 (Table 1) applies to all projects.

Geology

Can potential impacts to geologic resources be mitigated to a level of less-than-significant through implementation of standard mitigation measures? If yes, then the Programmatic IS/MND can be used for the CEQA determination for potential geological resource impacts. If no, then additional CEQA review is required. Circle one:

No (additional CEQA Review required)

Yes (Programmatic IS/MND can be used for the CEQA determination)

Mitigation Measures GEO-3 (Table 1) apply to all projects.

Mitigation Measure GEO-4 (Table 1) applies to all new recharge projects requiring construction.

Hydrology and Water Quality

Can potential impacts to water resources be mitigated to a level of less-than-significant through implementation of standard mitigation measures? If yes, then the Programmatic IS/MND can be used for the CEQA determination for potential water resource impacts. If no, then additional CEQA review is required. Circle one:

No (additional CEQA Review required)

Yes (Programmatic IS/MND can be used for the CEQA determination)

Attach results of hazards and hazardous materials database searches to this checklist.

Specify the standard mitigation measures which apply to this project: _____

North Kern Water Storage District:

Name

Signature

Title

Date

Title

Table 1. Standard Mitigation Measures for Landowner Groundwater Banking Projects

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
Air Quality	<p>Mitigation Measure AQ-1: District Regulation VIII Fugitive PM10 Prohibitions Best Management Practices</p> <p>All new recharge projects are subject to S.J.V.A.P.C.D. rules and regulations in effect at the time of construction. Control of fugitive dust is required by S.J.V.A.P.C.D. Regulation VIII. The Applicant shall implement or require its contractor to implement all of the following measures as identified by S.J.V.A.P.C.D.:</p> <ul style="list-style-type: none"> • Apply water to unpaved surfaces and areas • Use non-toxic chemical or organic dust suppressants on unpaved roads and traffic areas • Limit or reduce vehicle speed on unpaved roads and traffic areas • Maintain areas in a stabilized condition by restricting vehicle access • Install wind barriers • During high winds, cease outdoor activities that disturb the soil • Keep bulk materials sufficiently wet when handling • Store and hand material in a three-sided structure • When storing bulk material, apply water to the surface or cover the stage pile with a tarp • Don't overload haul trucks. Overlanded trucks are likely to spill bulk materials • Cover haul trucks with a tarp or other suitable cover. Or, wet the top of the load enough to limit visible dust emissions 	Applicant	Prior to and during construction
	All new projects requiring construction are required to implement AQ-1		

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
	<ul style="list-style-type: none"> • Clean the interior of cargo compartments on emptied haul trucks prior to leaving the site • Prevent track-out by installing a track-out control device • Clean up track-out at least once a day. If along a busy road or highway, clean up track-out immediately • Monitor dust-generating activities and implement appropriate measures for maximum dust control 		
Biological			
If the potential for special-status plants was identified in reconnaissance surveys or desktop review, then BIO-1 will be required.	<p>Mitigation Measure BIO-1: Conduct Focused Surveys for and Maintain a Minimum 50-foot No disturbance Buffer from Special-status Plants.</p> <p>To avoid potential effects on special-status plants (plants listed as threatened or endangered under state or federal endangered species act or with California Rare Plant Rank of 1B or 2B), the District will ensure that the following measures are implemented if a proposed recharge site supports suitable habitat for special-status plants.</p> <ul style="list-style-type: none"> • Within 2 years before construction activities begin at a given site, a qualified botanist will conduct surveys for special-status plants on and within 50 feet of the site, in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018). • If special-status plants are observed during the surveys, temporary fencing or flagging will be installed before construction begins to create and maintain a minimum 50-foot no disturbance buffer between the construction area and special-status plants. The fencing will be installed at least 50 feet from the outer edge of occupied special-status plant habitat. A qualified biologist will identify the no disturbance area and confirm that flagging or fencing is installed in the appropriate locations. 	District	Prior to and during construction

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
If the potential for blunt-nosed leopard lizard was identified in reconnaissance surveys or desktop review, then BIO-2 will be required.	<ul style="list-style-type: none"> All construction activities, construction personnel, and vehicles will be prohibited from the 50-foot no disturbance buffer. Fencing/flagging will be inspected and repaired/replaced, as necessary, each day before work begins adjacent to the no disturbance area. Fencing/flagging will be removed after all construction activities adjacent to the no disturbance area are complete. 		
	<p>Mitigation Measure BIO-2: Maintain a Minimum 50-foot No disturbance Buffer from Blunt-nosed Leopard Lizard Habitat.</p> <p>To avoid potential effects on blunt-nosed leopard lizard, the District will ensure that the following measures are implemented if a proposed recharge site supports suitable habitat for blunt-nosed leopard lizard.</p> <ul style="list-style-type: none"> Before construction activities begin at a given site, temporary fencing will be installed to prevent blunt-nosed leopard lizard from entering the construction area and to create and maintain a minimum 50-foot no disturbance buffer between the construction area and habitat that supports burrows suitable for blunt-nosed leopard lizard. The fencing will be installed at least 50 feet from burrows suitable for blunt-nosed leopard lizard. A qualified biologist will determine where fencing will be installed, conduct a pre-installation survey of the fence alignment to confirm no suitable burrows for blunt-nosed leopard lizard are present in or within 50 feet of the fence alignment, and be present during all fence installation and removal to ensure that no blunt-nosed leopard lizards are harmed. All construction activities, construction personnel, and vehicles will be prohibited from the 50-foot no disturbance buffer. Fencing will be inspected and repaired, as necessary, each day before work begins 	District	Prior to and during construction

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
	adjacent to the fencing. Fencing will be removed after all construction activities adjacent to the habitat are complete.		
If the potential for burrowing owls was identified in reconnaissance surveys or desktop review, then BIO-3 will be required.	Mitigation Measure BIO-3: Conduct Habitat Assessment and Focused Surveys for Burrowing Owls and Minimize Disturbance of and Avoid Loss of Occupied Burrows. To minimize potential effects on burrowing owl, the District will ensure that the following measures are implemented, consistent with the Staff Report on Burrowing Owl Mitigation (CDFG 2012), if a proposed recharge site supports potentially suitable habitat for burrowing owl. <ul style="list-style-type: none"> • A qualified biologist will assess burrowing owl habitat suitability in the area subject to direct impact and adjacent areas within 500 feet. • If suitable habitat or sign of burrowing owl presence is observed, a take avoidance survey will be conducted within 10 days before construction activities begin near areas of suitable habitat. • If any occupied burrows are observed, protective buffers will be established and implemented. A qualified biologist will monitor the occupied burrows during construction activities to confirm effectiveness of the buffers. The size of the buffer will depend on type and intensity of disturbance, presence of visual buffers, and other variables that could affect susceptibility of the owls to disturbance. • If destruction of an occupied burrow cannot be avoided and it is determined, in consultation with CDFW, that passive exclusion of owls from the construction footprint is an appropriate means of minimizing direct impacts, an exclusion and relocation plan will be developed and implemented in coordination with CDFW. Passive exclusion will not be conducted during the breeding 	District	Prior to and during construction

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
	<p>season (February 1 – August 31), unless a qualified biologist verifies through noninvasive means that either (1) the birds have not begun egg laying or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival.</p> <ul style="list-style-type: none"> • If passive exclusion is conducted, each occupied burrow that is destroyed will be replaced with at least one artificial burrow on a suitable portion of the recharge site that would not be subject to inundation or ground disturbance. 		
	<p>Mitigation Measure BIO-4: Avoid Removal of Recently Active Swainson’s Hawk Nest Trees and Conduct Focused Surveys for Nesting Swainson’s Hawks and White-tailed Kites and Implement Take Avoidance Plan for Active Nests.</p> <p>To minimize potential effects of project construction on known Swainson’s hawk nest trees and active Swainson’s hawk and white-tailed kite nests, the District will ensure that the following measures are implemented, if a proposed recharge site supports potentially suitable habitat for Swainson’s hawk:</p> <ul style="list-style-type: none"> • Removal of any trees known to have supported an active Swainson’s hawk nest within the previous 5 years will be prohibited. • If construction activities would occur during the Swainson’s hawk nesting season (April-August), a qualified biologist will conduct surveys of potential Swainson’s hawk nesting trees within 0.5 mile of the recharge site. To the extent practicable, depending on timing of construction initiation, surveys will be conducted in accordance with the Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley (Swainson’s Hawk Technical Advisory Committee 2000). At a minimum, at least one 		
If the potential for nesting Swainson’s hawks or white-tailed kites was identified in reconnaissance surveys or desktop review, then BIO-4 will be required.		District	Prior to and during construction

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
	<p>survey will be conducted within 10 days before construction activities begin during the nesting season. If a lapse in construction activities of 10 days or longer occurs, another focused survey will be conducted before activities resume during the nesting season.</p> <ul style="list-style-type: none"> • If construction would begin during the white-tailed kite nesting season (March 1-August 31), a qualified biologist will conduct surveys of potential white-tailed kite nesting trees within 0.25 mile of the recharge site. The survey will be conducted no more than 10 days before construction activities begin during the nesting season. If a lapse in construction activities of 10 days or longer occurs, another focused survey will be conducted before activities resume during the nesting season. • If an active Swainson's hawk or white-tailed kite nest is found, a qualified biologist will prepare a site-specific take avoidance plan to comply with the California Endangered Species Act and the CFGC. Measures may include but are not limited to nest-specific no disturbance buffers, biological monitoring, rescheduling construction activities around sensitive periods for the species (e.g., nest establishment), and/or implementing construction best practices, such as staging equipment out of the species' line of sight from the nest tree. The avoidance/protection measures will be established before construction activities begin and continue until the adult and young birds are no longer reliant on the nest site. 		
If the potential for other nesting birds was identified in reconnaissance surveys or desktop review, then BIO-5 will be required.	<p>Mitigation Measure BIO-5: Conduct Focused Surveys for Other Nesting Birds and Implement Buffers Around Active Nests.</p> <p>To minimize potential effects of project construction on active nests of other special-status birds and common birds protected by state and federal regulations, the District will ensure that the</p>	District	Prior to and during construction

following measures are implemented, if a proposed recharge site supports potentially suitable habitat for nesting birds:

- If construction would occur during the bird nesting season (February-August), a qualified biologist will conduct surveys of 1) suitable nesting habitat for common birds within 100 feet of construction activities, 2) suitable nesting habitat for non-raptor special-status birds within 300 feet of construction activities, and 3) suitable nesting habitat for raptors other than those addressed in BIO-3 and BIO-4 within 500 feet of construction activities. Surveys will be conducted within 10 days before construction activities begin during the nesting season. If a lapse in construction activities of 10 days or longer occurs, another focused survey will be conducted before activities resume during the nesting season.
 - If any active bird nests are observed, a qualified biologist will prepare a site-specific take avoidance plan to comply with applicable state and federal regulations. If an active tricolored blackbird nesting colony is found during preconstruction surveys, a minimum 300-foot no-disturbance buffer will be implemented in accordance with CDFW's Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 2015 (CDFW 2015), or more recent guidance if issued, until the breeding season has ended or until a qualified biologist has determined that nesting has ceased and the young have fledged and are no longer reliant upon the colony or parental care for survival. Measures for other species may include but are not limited to nest-specific no disturbance buffers, biological monitoring, rescheduling construction activities around sensitive periods for the species (e.g., nest establishment), and/or implementing construction best practices, such as staging equipment out of the species'
-

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
	line of sight from the nest tree. The avoidance/protection measures will be established before construction activities begin and continue until the adult and young birds are no longer reliant on the nest site.		
	<p>Mitigation Measure BIO-6: Conduct Pre-Construction Surveys and Implement Measures during Construction to Minimize Potential Impacts on San Joaquin Kit Fox.</p> <p>To minimize potential effects of project construction on San Joaquin kit fox, the District will ensure that the following measures are implemented, if a proposed recharge site supports potentially suitable habitat for San Joaquin kit fox:</p> <ul style="list-style-type: none"> • No more than 30 days before construction activities begin at a given site, a qualified biologist will conduct a pre-construction survey to determine the potential for a San Joaquin kit fox den to occur in the area. If potential or known den for San Joaquin kit fox is found, an exclusion zone will be established and maintained, in accordance with the Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox (USFWS 2011). • If construction activity would occur within 50 feet of a potential den (i.e., a den that is not known to be occupied), monitoring will be conducted at the potential den for 4 consecutive days. If no San Joaquin kit fox activity is documented, construction activities can proceed. If San Joaquin kit fox activity is documented, the appropriate exclusion zone will be established and maintained, in accordance with the Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox (USFWS 2011). • To prevent kit fox entrapment during construction, all excavated, steep-walled holes or trenches more than 2 feet deep will be covered with plywood or similar material at the end of each workday. If the trenches cannot be 		
If the potential for San Joaquin kit fox was identified in reconnaissance surveys or desktop review, then BIO-6 will be required.		District	Prior to and during construction

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
	<p>closed, one or more escape ramps of no more than a 45-degree slope will be constructed of earthen fill or created with wooden planks. All covered or uncovered excavations will be inspected at the beginning, middle, and end of each day. Before trenches are filled, they will be inspected for trapped animals. If a trapped kit fox is discovered, construction activities in and near the excavation will stop, and escape ramps or structures will be installed immediately to allow the animal to leave voluntarily. Construction activities will not resume until the animal has left the area.</p> <ul style="list-style-type: none"> • All construction pipes or similar structures with a diameter of 4 inches or greater that are stored on the ground at a construction site for one or more overnight periods will be thoroughly inspected for wildlife before the pipe is buried, capped, or otherwise used or moved in any way. Pipes laid in trenches overnight will be capped. If a potential San Joaquin kit fox is discovered inside a pipe, all construction activities near the pipe will stop, and the animal will be allowed to leave the pipe voluntarily. Construction activities will not resume until the animal has left the area. • All food-related trash items such as wrappers, cans, bottles, or food scraps generated during construction activities will be disposed of in closed containers and removed daily from the recharge site. No deliberate feeding of wildlife will be allowed, and no pets associated with construction personnel will be permitted on the recharge site. 		
If the potential for San Joaquin antelope squirrel was identified in reconnaissance surveys or desktop review, then BIO-7 will	Mitigation Measure BIO-7: Conduct Focused Surveys for and Maintain a Minimum 50-foot No disturbance Buffer from Burrows Occupied by San Joaquin Antelope Squirrel.	District	Prior to and during construction

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
be required.	<p>To avoid potential effects on San Joaquin antelope squirrel, the District will ensure that the following measures are implemented, if a proposed recharge site supports suitable habitat for San Joaquin antelope squirrel.</p> <ul style="list-style-type: none"> • Before construction begins, a qualified biologist will conduct focused surveys for San Joaquin antelope squirrel on and within 50 feet of the recharge site. Surveys will be conducted during weather conditions when the species is most likely to be detected. • If San Joaquin antelope squirrel is observed during the surveys, temporary fencing will be installed to prevent San Joaquin antelope squirrel from entering the construction area and to create and maintain a minimum 50-foot no disturbance buffer between the construction area and burrows occupied by San Joaquin antelope squirrel. The fencing will be installed at least 50 feet from occupied San Joaquin antelope squirrel burrows. • A qualified biologist will determine where fencing will be installed, conduct a pre-installation survey of the fence alignment to confirm no occupied burrows for San Joaquin antelope squirrel are present in or within 50 feet of the fence alignment, and be present during all fence installation and removal to ensure that no San Joaquin antelope squirrels are harmed. • All construction activities, construction personnel, and vehicles will be prohibited from the 50-foot no disturbance buffer. Fencing will be inspected and repaired, as necessary, each day before work begins adjacent to the fencing. Fencing will be removed after all construction activities adjacent to the occupied San Joaquin antelope squirrel habitat are complete. 		

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
<p>If the potential for Tipton kangaroo-rat was identified in reconnaissance surveys or desktop review, then BIO-8 will be required.</p>	<p>Mitigation Measure BIO-8: Maintain a Minimum 50-foot No disturbance Buffer from Tipton Kangaroo-rat Habitat.</p> <p>To avoid potential effects on Tipton kangaroo rat, the District will ensure that the following measures are implemented, if a proposed recharge site supports potentially suitable habitat Tipton kangaroo rat.</p> <ul style="list-style-type: none"> • Before construction activities begin, temporary fencing will be installed to prevent Tipton kangaroo rat from entering the construction area and to create and maintain a minimum 50-foot no disturbance buffer between the construction area and habitat that supports burrows suitable for Tipton kangaroo rat. The fencing will be installed at least 50 feet from burrows suitable for Tipton kangaroo rat. • A qualified biologist will determine where fencing will be installed, conduct a pre-installation survey of the fence alignment to confirm no suitable burrows for Tipton kangaroo rat are present in or within 50 feet of the fence alignment, and be present during all fence installation and removal to ensure that no Tipton kangaroo rats are harmed. • All construction activities, construction personnel, and vehicles will be prohibited from the 50-foot no disturbance buffer. Fencing will be inspected and repaired, as necessary, each day before work begins adjacent to the fencing. Fencing will be removed after all construction activities adjacent to the habitat are complete. 	District	Prior to and during construction
<p>If the potential for sensitive species was identified in reconnaissance surveys or desktop review, then BIO-9 will be required.</p>	<p>Mitigation Measure BIO-9: Implement Measures to Educate On-site Construction Personnel and Minimize Impacts on Additional Sensitive Species</p> <p>To minimize potential effects on sensitive species, the District will ensure that the following measures are implemented, if a</p>	District	Prior to and during construction

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
	<p>proposed recharge site supports potentially suitable habitat for sensitive species.</p> <ul style="list-style-type: none"> • Before construction activities begin, all on-site construction personnel will attend a Worker Environmental Awareness Program conducted by a qualified biologist. The program will address special-status species that could occur in the recharge area and include a discussion of species identification, life history, general behavior, habitat, distribution and sensitivity to human activities; state and federal legal protections; and required avoidance and minimization measures. A handout containing the information provided in the training will be provided to all personnel. Upon completion of the training, all personnel in attendance will sign a form stating they received the training and understand all topics discussed. • If suitable larval host plants for monarch butterfly are present and would be removed during the period when monarchs are typically dependent on host plants, the potential host plants will be surveyed by a qualified biologist for monarch eggs, larva, and chrysalides. If any of these life stages are observed, removal of the host plant will be delayed, if feasible, until the monarch butterflies have emerged. • If suitable habitat for special-status wildlife species that are not addressed under previous mitigation measures (e.g., Bakersfield legless lizard, California glossy snake, coast horned lizard, badger) is observed, the habitat/den will be avoided, if feasible, by implementing a 50-foot no disturbance buffer around dens and burrows that may be occupied by special-status species. 		
Cultural			

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
All new projects requiring construction are required to implement CR-1	<p>Mitigation Measure CR-1: Address Previously Undiscovered Historic Properties, Archaeological Resources, and Tribal Cultural Resources.</p> <p>If cultural resources are identified during Project-related ground-disturbing activities, all potentially destructive work in the immediate vicinity of the find should cease immediately and the District should be notified. In the event of an inadvertent discovery, additional CEQA review might be necessary to determine a properties' eligibility for listing in the CRHR and any actions that would be necessary to avoid adverse effects. A qualified archaeologist should assess the significance of the find, make a preliminary determination, and if appropriate, provide recommendations for treatment. Any treatment plan should be reviewed by the District prior to implementation. Ground-disturbing activities should not resume near the find until treatment, if any is recommended, is complete or if the qualified archaeologist determines the find is not significant.</p>	District	Prior to and during construction
All projects are required to implement CR-2	<p>Mitigation Measure CR-2: Avoid Potential Effects on Undiscovered Burials.</p> <p>If human remains are found, the contractor will notify the District immediately. The California Health and Safety Code requires that excavation be halted in the immediate area and that the county coroner be notified to determine the nature of the remains. The county coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code, Section 7050.5[b]). If the county coroner determines that the remains are those of a Native American, the county coroner must contact the Native American Heritage Commission (NAHC) by telephone within 24 hours of making that determination (Health and Safety Code, Section 7050.5[c]).</p> <p>Once notified by the county coroner, the NAHC shall identify the person determined to be the Most Likely Descendant (MLD) of</p>	District and Kern County Sheriff's Office	During construction

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
	the Native American remains. With permission of the legal landowner(s), the MLD may visit the site and make recommendations regarding the treatment and disposition of the human remains and any associated grave goods. This visit should be conducted within 24 hours of the MLD's notification by the NAHC (Public Resources Code [PRC], Section 5097.98[a]). If a satisfactory agreement for treatment of the remains cannot be reached, any of the parties may request mediation by the NAHC (PRC, Section 5097.94[k]). Should mediation fail, the landowner or the landowner's representative must reinter the remains and associated items with appropriate dignity on the property in a location not subject to further subsurface disturbance (PRC, Section 5097.98[b]).		
Geology			
All projects are required to implement GEO-1	Mitigation Measure GEO-1: Monitor Groundwater Levels. The District will continue to monitor groundwater levels at multiple locations District-wide to document the effects of banking operations and groundwater pumping.	District	During and post (operationally) construction
All projects are required to implement GEO-2	Mitigation Measure GEO-2: Conduct Subsidence Monitoring Surveys. In addition to North Kern's subsidence monitoring program, the District will participate in other subsidence monitoring and mitigation programs, including basin-wide efforts coordinated through the Kern Groundwater Authority (KGA). The KGA has identified the area between FKC mileposts 130 to 137 as an Area of Interest and is seeking funding to install an extensometer to monitor subsidence. Monitoring parameters include groundwater level monitoring and ground-truthing of subsidence detected by Interferometric Synthetic Aperture Radar (InSAR), extensometer, or level surveying. In coordination with the Kern County Subbasin GSAs, North Kern will make	District	Prior to and during construction

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
	operational adjustments or implement new management actions to mitigate impacts caused by their operation.		
All projects are required to implement GEO-3	<p>Mitigation Measure GEO-3: Develop Water Exchanges and/or Banking Agreements with Participating Landowners that Result in a Net Increase in District Water Supplies.</p> <p>The purpose of the Proposed Program is to expand groundwater recharge capacity within the District’s boundaries to enhance groundwater resources for the benefit of the District, its landowners and water users. To this end, under the Proposed Program, the District will establish joint landowner groundwater banking agreements for all potential projects to incentivize landowners to share their privately-owned recharge facilities to increase in-district recharge capacity.</p>	District	Prior to construction
All new projects requiring construction are required to implement GEO-4	<p>Mitigation Measure GEO-4: Avoid Potential Effects on Paleontological Resources.</p> <p>If a paleontological resource is uncovered during Project implementation, all ground-disturbing work within 165 feet (50 meters) of the discovery shall be halted. A qualified paleontologist shall inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, no further effort shall be required. If the resource cannot be avoided and may be subject to further impact, a qualified paleontologist shall evaluate the resource and determine whether it is “unique” under CEQA, Appendix G, part VII. The determination and associated plan for protection of the resource shall be provided to the District for review and approval. If the resource is determined not to be unique, work may commence in the area. If the resource is determined to be a unique paleontological resource, work shall remain halted, and the paleontologist shall consult with the District staff regarding methods to ensure that no substantial adverse change would occur to the significance of</p>	District	Prior to and during construction

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
	the resource pursuant to CEQA. Preservation in place (i.e., avoidance) is the preferred method of mitigation for impacts to paleontological resources and shall be required unless there are other equally effective methods. Other methods may be used but must ensure that the fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards under the direction of a qualified paleontologist. All recovered fossils shall be curated at an accredited and permanent scientific institution according to Society of Vertebrate Paleontology standard guidelines; typically, the Natural History Museum of Los Angeles County and University of California, Berkeley accept paleontological collections at no cost to the donor. Work may commence upon completion of treatment, as approved by the District.		
Hydrology/Water Quality			
If the potential for contaminants was identified in database searches, then HYDRO-1 will be required.	Mitigation Measure HYDRO-1: Conduct Phase 1 Environmental Site Assessment. If the hazards and hazardous materials database searches indicate the potential for contaminants to be present on-site, then a Phase 1 Environmental Site Assessment will be conducted to assess on-site contaminant risks.	District	Prior to construction

Potential Environmental Impact	Mitigation Measure	Responsible Party	Timing
All projects are required to implement HYDRO-2	<p>Mitigation Measure HYDRO-2: Monitor Groundwater Quality.</p> <p>The District will monitor groundwater quality at the monitoring wells listed in Table 3-6 of the IS/MND. If groundwater quality contamination is detected, further investigations will be implemented to determine the source of the contamination. If the source is associated with recharge at a landowner recharge facility, either the recharge facility will cease operation, or the contamination will be removed. With monitoring of groundwater quality during and post construction, the proposed Project will then not violate or have a less-than-significant impact to water quality standards or waste discharge requirements.</p>	District	During and post (operationally) construction
All new projects requiring construction are required to implement HYDRO-3	<p>Mitigation Measure HYDRO-3: Monitor for Evidence of Soil Contamination.</p> <p>During construction of the recharge sites, the contractor and inspecting engineer will monitor for evidence of soil contamination (color, odor, buried tanks, pipeline). If contaminated soils are encountered during excavation, these soils will be analyzed to identify the type and extent (vertically and horizontally) of contamination present. Contaminated soils will either be treated on site or disposed of at a hazardous waste landfill.</p>	Applicant	During Construction

Appendix C Biological Resources Database Searches



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad< IS (Wasco (3511953) OR Wasco NW (3511964) OR Pond (3511963) OR McFarland (3511962) OR Famoso (3511952) OR Rio Bravo (3511943) OR Rosedale (3511942) OR Oildale (3511941))> AND < Taxonomic Group (Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)>

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Astragalus hornii</i> var. <i>hornii</i> Horn's milk-vetch	GUT1 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	400 400	28 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Atriplex cordulata</i> var. <i>erecticaulis</i> Earlimart orache	G3T1 S1	None None	Rare Plant Rank - 1B.2	300 300	23 S:3	0	0	0	0	3	0	2	1	0	2	1
<i>Atriplex coronata</i> var. <i>vallicola</i> Lost Hills crownscale	G4T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive		75 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Atriplex minuscula</i> lesser saltscale	G2 S2	None None	Rare Plant Rank - 1B.1	230 230	52 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Caulanthus californicus</i> California jewelflower	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley		67 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Chloropyron molle</i> ssp. <i>hispidum</i> hispid salty bird's-beak	G2T1 S1	None None	Rare Plant Rank - 1B.1	400 400	35 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Delphinium recurvatum</i> recurved larkspur	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden	225 275	119 S:3	0	0	0	0	2	1	3	0	1	0	2



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Eremalche parryi ssp. kernensis</i> Kern mallow	G3G4T3 S3	Endangered None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden	253 350	202 S:5	0	0	1	0	0	4	1	4	5	0	0
<i>Eriastrum hooveri</i> Hoover's eriastrum	G3 S3	Delisted None	Rare Plant Rank - 4.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	300 325	47 S:5	0	1	2	0	2	0	5	0	3	0	2
<i>Eryngium spinosepalum</i> spiny-sepaled button-celery	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	300 300	108 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Imperata brevifolia</i> California satintail	G4 S3	None None	Rare Plant Rank - 2B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	400 400	32 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Layia munzii</i> Munz's tidy-tips	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	300 300	68 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Monolopia congdonii</i> San Joaquin woollythreads	G2 S2	Endangered None	Rare Plant Rank - 1B.2 SB_UCBG-UC Botanical Garden at Berkeley	330 400	111 S:6	0	0	0	0	6	0	6	0	0	6	0
<i>Opuntia basilaris var. treleasei</i> Bakersfield cactus	G5T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	420 915	62 S:7	0	0	3	3	1	0	1	6	6	0	1
<i>Stylocline masonii</i> Mason's neststraw	G1 S1	None None	Rare Plant Rank - 1B.1 USFS_S-Sensitive	330 330	7 S:1	0	0	0	0	0	1	1	0	1	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Wasco (3511953) OR Wasco NW (3511964) OR Pond (3511963) OR McFarland (3511962) OR Famoso (3511952) OR Rio Bravo (3511943) OR Rosedale (3511942) OR Oildale (3511941))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects)

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Agelaius tricolor</i> tricolored blackbird	G1G2 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	220 300	955 S:7	0	1	0	0	0	6	3	4	7	0	0
<i>Ammospermophilus nelsoni</i> Nelson's (=San Joaquin) antelope squirrel	G2G3 S2S3	None Threatened	BLM_S-Sensitive IUCN_EN-Endangered	230 235	287 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Anniella grinnelli</i> Bakersfield legless lizard	G2G3 S2S3	None None	CDFW_SSC-Species of Special Concern	393 410	28 S:7	0	0	5	0	0	2	2	5	7	0	0
<i>Arizona elegans occidentalis</i> California glossy snake	G5T2 S2	None None	CDFW_SSC-Species of Special Concern	318 900	260 S:7	0	0	0	0	0	7	7	0	7	0	0
<i>Athene cunicularia</i> burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	190 540	2011 S:13	2	2	5	1	0	3	2	11	13	0	0
<i>Bombus crotchii</i> Crotch bumble bee	G2 S1S2	None None		350 900	437 S:4	0	0	0	0	0	4	4	0	4	0	0
<i>Buteo swainsoni</i> Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	325 400	2547 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Dipodomys nitratoides nitratoides</i> Tipton kangaroo rat	G3T1T2 S1S2	Endangered Endangered	IUCN_VU-Vulnerable	220 390	81 S:11	0	2	0	0	1	8	10	1	10	0	1
<i>Eremophila alpestris actia</i> California horned lark	G5T4Q S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	340 340	94 S:1	0	0	0	1	0	0	0	1	1	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Eumops perotis californicus</i> western mastiff bat	G4G5T4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern WBWG_H-High Priority		296 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Gambelia sila</i> blunt-nosed leopard lizard	G1 S1	Endangered Endangered	CDFW_FP-Fully Protected IUCN_EN-Endangered	40 750	418 S:9	0	1	4	1	1	2	9	0	8	1	0
<i>Helminthoglypta callistoderma</i> Kern shoulderband	G1 S1	None None	IUCN_EN-Endangered	375 375	3 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Lasiurus cinereus</i> hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority	400 400	238 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Perognathus inornatus</i> San Joaquin pocket mouse	G2G3 S2S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern	225 623	140 S:5	0	1	1	0	0	3	1	4	5	0	0
<i>Phrynosoma blainvillii</i> coast horned lizard	G3G4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	255 290	784 S:2	2	0	0	0	0	0	1	1	2	0	0
<i>Spea hammondi</i> western spadefoot	G2G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	329 390	1422 S:4	0	0	0	3	0	1	3	1	4	0	0
<i>Taxidea taxus</i> American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern		594 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	G4T2 S2	Endangered Threatened		220 890	1020 S:50	1	9	6	2	0	32	35	15	50	0	0



CALIFORNIA
NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

Search Results

20 matches found. Click on scientific name for details

Search Criteria: Quad is one of [3511953:3511964:3511963:3511962:3511952:3511943:3511942:3511941]

▲ SCIENTIFIC NAME	COMMON NAME	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK	GENERAL HABITATS	MICRO HABITATS	LOWEST ELEVATION (FT)	HIGHEST ELEVATION (FT)
<u><i>Astragalus hornii</i> var. <i>hornii</i></u>	Horn's milk-vetch	May-Oct	None	None	1B.1	Meadows and seeps, Playas	Alkaline, Lake Margins	195	2790
<u><i>Atriplex cordulata</i> var. <i>erecticaulis</i></u>	Earlimart orache	Aug-Sep(Nov)	None	None	1B.2	Valley and foothill grassland		130	330
<u><i>Atriplex coronata</i> var. <i>coronata</i></u>	crownscale	Mar-Oct	None	None	4.2	Chenopod scrub, Valley and foothill grassland, Vernal pools	Alkaline, Clay (often)	5	1935
<u><i>Atriplex coronata</i> var. <i>vallicola</i></u>	Lost Hills crownscale	Apr-Sep	None	None	1B.2	Chenopod scrub, Valley and foothill grassland, Vernal pools	Alkaline	165	2085
<u><i>Atriplex minuscula</i></u>	lesser saltscale	May-Oct	None	None	1B.1	Chenopod scrub, Playas, Valley and foothill grassland	Alkaline, Sandy	50	655
<u><i>Atriplex subtilis</i></u>	subtle orache	(Apr)Jun-Sep(Oct)	None	None	1B.2	Valley and foothill grassland	Alkaline	130	330
<u><i>Caulanthus californicus</i></u>	California jewelflower	Feb-May	FE	CE	1B.1	Chenopod scrub, Pinyon and juniper woodland, Valley and foothill grassland	Sandy	200	3280
<u><i>Chloropyron molle</i> ssp. <i>hispidum</i></u>	hispid salty bird's-beak	Jun-Sep	None	None	1B.1	Meadows and seeps, Playas, Valley and foothill grassland	Alkaline	5	510

<u>Delphinium recurvatum</u>	recurved larkspur	Mar-Jun	None	None	1B.2	Chenopod scrub, Cismontane woodland, Valley and foothill grassland	Alkaline	10	2590
<u>Eremalche parryi ssp. kernensis</u>	Kern mallow	Jan(Feb)Mar-May	FE	None	1B.2	Chenopod scrub, Pinyon and juniper woodland, Valley and foothill grassland	Clay (sometimes), Dry, Openings, Sandy (sometimes)	230	4230
<u>Eriastrum hooveri</u>	Hoover's eriastrum	Mar-Jul	FD	None	4.2	Chenopod scrub, Pinyon and juniper woodland, Valley and foothill grassland	Gravelly (sometimes)	165	3000
<u>Eriogonum gossypinum</u>	cottony buckwheat	Mar-Sep	None	None	4.2	Chenopod scrub, Valley and foothill grassland	Clay	330	1805
<u>Eryngium spinosepalum</u>	spiny-sepaled button-celery	Apr-Jun	None	None	1B.2	Valley and foothill grassland, Vernal pools		260	3200
<u>Imperata brevifolia</u>	California satintail	Sep-May	None	None	2B.1	Chaparral, Coastal scrub, Meadows and seeps, Mojavean desert scrub, Riparian scrub	Mesic	0	3985
<u>Lasthenia ferrisiae</u>	Ferris' goldfields	Feb-May	None	None	4.2	Vernal pools		65	2295
<u>Layia munzii</u>	Munz's tidy-tips	Mar-Apr	None	None	1B.2	Chenopod scrub, Valley and foothill grassland		490	2295
<u>Monolopia congdonii</u>	San Joaquin woollythreads	Feb-May	FE	None	1B.2	Chenopod scrub, Valley and foothill grassland		195	2625
<u>Opuntia basilaris var. treleasei</u>	Bakersfield cactus	Apr-May	FE	CE	1B.1	Chenopod scrub, Cismontane woodland, Valley and foothill grassland	Gravelly (sometimes), Sandy (sometimes)	330	4755
<u>Stylocline masonii</u>	Mason's neststraw	Mar-May	None	None	1B.1	Chenopod scrub, Pinyon and juniper woodland	Sandy	330	3935
<u>Trichostema ovatum</u>	San Joaquin bluecurls	(Apr-Jun)Jul-Oct	None	None	4.2	Chenopod scrub, Valley and foothill grassland		215	1050

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Kern County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📅 (916) 414-6713

Federal Building

2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Buena Vista Lake Ornate Shrew <i>Sorex ornatus relictus</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/1610	Endangered
Giant Kangaroo Rat <i>Dipodomys ingens</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6051	Endangered
San Joaquin Kit Fox <i>Vulpes macrotis mutica</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat <i>Dipodomys nitratoides nitratoides</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7247	Endangered

Birds

NAME	STATUS
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/6749	Endangered
Western Snowy Plover <i>Charadrius nivosus nivosus</i> There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/8035	Threatened

Yellow-billed Cuckoo *Coccyzus americanus*

Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/3911>

Reptiles

NAME

STATUS

Blunt-nosed Leopard Lizard *Gambelia silus*

Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/625>

Giant Garter Snake *Thamnophis gigas*

Threatened

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4482>

Fishes

NAME

STATUS

Delta Smelt *Hypomesus transpacificus*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/321>

Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

Crustaceans

NAME

STATUS

Conservancy Fairy Shrimp *Branchinecta conservatio* Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/8246>

Vernal Pool Fairy Shrimp *Branchinecta lynchi* Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/498>

Flowering Plants

NAME

STATUS

Bakersfield Cactus *Opuntia treleasei*

Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/7799>

California Jewelflower *Caulanthus californicus*

Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4599>

Kern Mallow *Eremalche kernensis*

Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/1731>

San Joaquin Adobe Sunburst *Pseudobahia peirsonii*

Threatened

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/2931>

San Joaquin Woolly-threads *Monolopia (=Lembertia) condonii*

Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/3746>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Black Tern *Chlidonias niger*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3093>

Breeds May 15 to Aug 20

Black-chinned Sparrow *Spizella atrogularis*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9447>

Breeds Apr 15 to Jul 31

California Thrasher *Toxostoma redivivum*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Jan 1 to Jul 31

Cassin's Finch *Carpodacus cassinii*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9462>

Breeds May 15 to Jul 15

Clark's Grebe *Aechmophorus clarkii*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Jun 1 to Aug 31

Common Yellowthroat <i>Geothlypis trichas sinuosa</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lawrence's Goldfinch <i>Carduelis lawrencei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Long-eared Owl <i>asio otus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Marbled Godwit <i>Limosa fedoa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Nuttall's Woodpecker <i>Picoides nuttallii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse <i>Baeolophus inornatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Olive-sided Flycatcher <i>Contopus cooperi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31

Short-billed Dowitcher *Limnodromus griseus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9480>

Tricolored Blackbird *Agelaius tricolor*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3910>

Willet *Tringa semipalmata*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit *Chamaea fasciata*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence ()

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum

probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.05/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

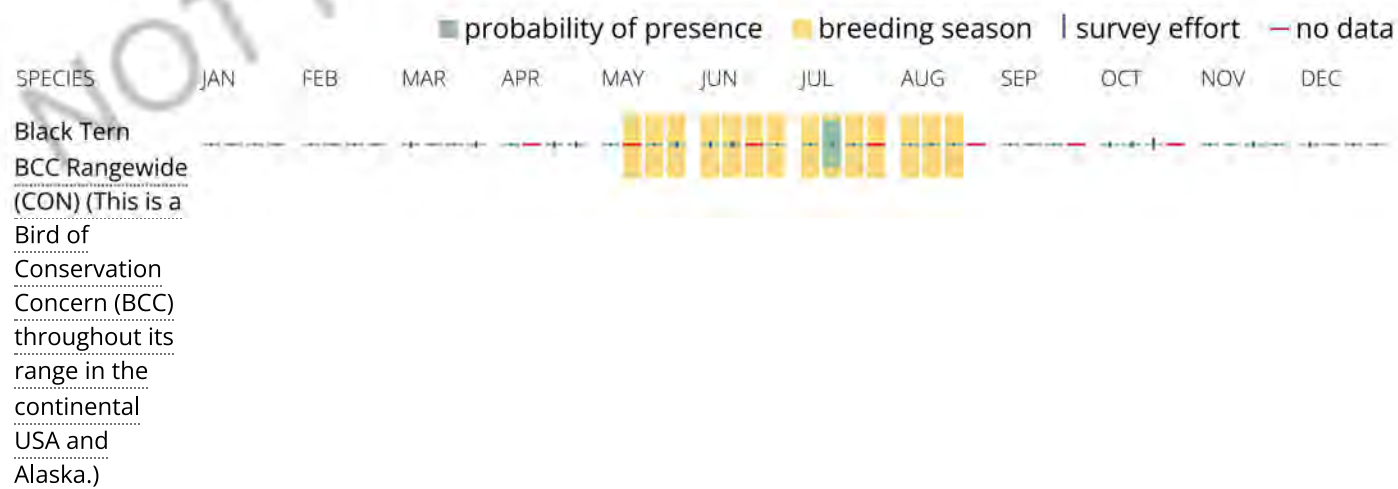
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

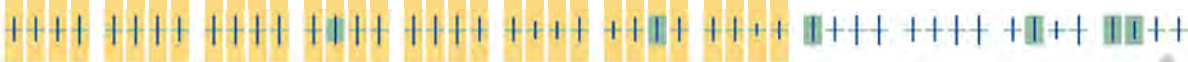




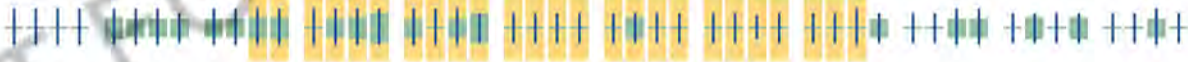
Common
Yellowthroat
BCC - BCR (This
is a Bird of
Conservation
Concern (BCC)
only in
particular Bird
Conservation
Regions (BCRs)
in the
continental
USA)



Golden Eagle
Non-BCC
Vulnerable
(This is not a
Bird of
Conservation
Concern (BCC)
in this area, but
warrants
attention
because of the
Eagle Act or for
potential
susceptibilities
in offshore
areas from
certain types of
development
or activities.)

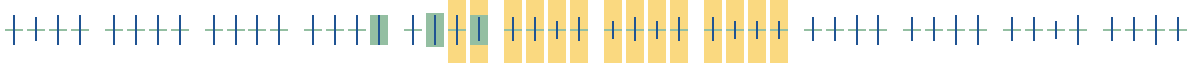


Lawrence's
Goldfinch
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental
USA and
Alaska.)





Olive-sided
Flycatcher
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental
USA and
Alaska.)



Short-billed
Dowitcher
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental
USA and
Alaska.)



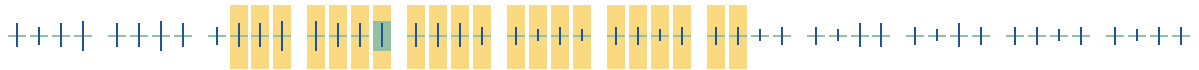
Tricolored
Blackbird
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental
USA and
Alaska.)



Willet
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental
USA and
Alaska.)



Wrentit
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental
USA and
Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Coastal Barrier Resources System

Projects within the [John H. Chafee Coastal Barrier Resources System](#) (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local [Ecological Services Field Office](#) or visit the [CBRA Consultations website](#). The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

THERE ARE NO KNOWN COASTAL BARRIERS AT THIS LOCATION.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the [official CBRS maps](#). The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: <https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be

subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

The area of this project is too large for IPaC to load all NWI wetlands in the area. The list below may be incomplete. Please contact the local U.S. Fish and Wildlife Service office or visit the [NWI map](#) for a full list.

FRESHWATER POND

[Palustrine](#)

LAKE

[Lacustrine](#)

RIVERINE

[Riverine](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.