CEQA Environmental Checklist

PROJECT DESCRIPTION AND BACKGROUND

Project Title:	Aquifer Storage and Recovery Well
Lead agency name, address, contact person, and phone number:	Stockton East Water District 6767 East Main Street Stockton, California 95215 P.O. Box 5157 Stockton, California 95205 Justin M. Hopkins General Manager (209) 948-0333 phone Devensen@sew.net
Project Location:	The proposed project site is in the County of San Joaquin, State of California, Section 75, Township 1 North, Range 7 East, on the Assessor's Parcel Number 101-040-230.
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.)	Stockton East Water District (District) proposes to install a new ASR well to replace the existing Well 74-01 on the premises of the Dr. Joe Waidhofer Drinking Water Treatment Plant (WTP). The construction involves drilling a well approximately 800 feet deep, with an estimated recharge rate of 350 GPM and production rate of 1,500 GPM. The production volume will be limited to 70% of the recharge volume. The well will serve as a dry year supplemental supply of raw water to the WTP; the well will also serve to restore groundwater by aquifer storage in wet years. The discharge of this well during production will be into the South Raw Water Reservoir and water pumped will be treated prior to delivery to the Urban Contractors distribution systems. The supply to this well during storage will be treated water from the Urban Contractor—Cal Water—distribution system.
Other public agencies whose approval is required (e.g. permits, financial approval, or participation agreements):	State Water Quality Control Board

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project. Please see the checklist beginning on page 3 for additional information.

☐	Aesthetics	☐	Agriculture and Forestry	☐	Air Quality
☐	Biological Resources	☐	Cultural Resources	☐	Geology/Soils
☐	Greenhouse Gas Emissions	☐	Hazards and Hazardous Materials	☒	Hydrology/Water Quality
☐	Land Use/Planning	☐	Mineral Resources	☐	Noise
☐	Population/Housing	☐	Public Services	☐	Recreation
☐	Transportation/Traffic	☐	Utilities/Service Systems	☐	Mandatory Findings of Significance

DETERMINATION:

On the basis of this initial evaluation:

☒	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☐	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
☐	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	I find that the proposed project MAY have a "potentially significant 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.
☐	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required

Signature:	**Date:**
Printed Name: Justin M. Hopkins	**For: District**

CEQA Environmental Checklist

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Discussion:

The project is located in a rural agricultural setting on the campus of a water treatment plant; therefore the project will blend in this setting and **not impact** aesthetics of the site.

II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. 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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion:

Forest land or prime Farm land will not be converted with this project.

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

a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

Discussion:

a-e) In accordance with the Central Valley Air Pollution Control District Small Project Analysis Level (SPAL), the Project falls below the threshold of requiring an Ambient Air Quality Analysis and deems the project to have a **less than Significant impact**.

IV. BIOLOGICAL RESOURCES: Would the project:

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

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion

The proposed well site is located within the Dr. Joe Waidhofer Water Treatment Plant campus. This work will not require the removal of any trees or damage to habitats. Therefore, the impacts of the Project would have **no impact**. See Exhibit A.

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Discussion

There are no known prehistoric or historic subsurface cultural resources at the site location. This is a water treatment plant campus with 24 hour operations. Construction activities are drilling a well, and installing supporting piping and electrical service, all within the treatment plant property. With these actions, the Project will have **no cultural impact**. See Exhibit B.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion

This Project consists of drilling a well, and installing supporting piping and electrical service, all within the treatment plant property. With these actions, the Project will have **no geologic impact**.

VII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Discussion

Construction greenhouse gas (GHG) emissions would include both direct and indirect sources. Combustion of the refined petroleum products needed to operate construction equipment would be part of the direct GHG. The GHG emissions through mining and extraction of raw materials, manufacturing, and transportation to produce the building materials used in Project construction would be a part of the indirect GHG. Construction energy consumption would be a one-time impact and GHG emissions by the construction activities would be less than a month in duration, therefore, the Project will have **no impact**.

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Discussion

a-c) Neither the construction nor operation of the well will involve the use or storage of hazardous substances other than the petroleum and diesel fuel used to operate machinery and vehicles. The potential impact from the release of hazardous substances is **less than significant**.

c-g) The site is located in a rural area. The Project location is such that it will not interfere with any emergency response or evacuation plans nor is it situated by any airstrips. There are **no impacts**.

h)The Project will not increase the fire hazard in the area. There are **no impacts**.

IX. HYDROLOGY AND WATER QUALITY: Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) 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?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒

Discussion:

a,f) Operation of the well will be during dry years as a supplement to other raw water supplies. Wet years will recharge the groundwater supply. Discharge will be directly into the South Raw Water Reservoir for subsequent treatment. Therefore, the project will have **no impact.** Additionally the project will submit a permit and adhere to permit requirements of the State Water Quality Control Board which will contain water quality monitoring and additional mitigation criteria.

b) The purpose of the Project is to extract ground water that has been previously recharged. Therefore, the construction of Project would draw on ground water reserves only and would have **less than significant impact** on the groundwater quantity, quality. The well will only be used during drought years. During wet years the District will recharge water in to the groundwater table.

c-e) The project will not alter natural drainage of the site therefore there will be **no impact** on the increase of erosion potential or storm water quantity of the existing site.

g-j) No housing will constructed with this project. **No Impact**.

X. LAND USE AND PLANNING: Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b)Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion

The project is consistent with its land designation, as a water supply to a water treatment plant, **no impact**.

XI. MINERAL RESOURCES: Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion

The proposed Project will not result in the loss or reduction any mineral resources, **no impact**.

XII. NOISE: Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
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 expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
d) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion:
The construction site is located quite some distance from any existing residence and 10 miles from the nearest public airport. The only noise increase would be during construction. San Joaquin County provides exemption from noise ordinance standards for construction activities during set hours and days of the week. Construction activities for the proposed Project will be limited to the hours and days specified by San Joaquin County, 7:00 AM and 7:00 PM, Monday through Saturday. Given the exemption and the location of the construction, the noise increase is less than significant in the short term and **no impact** in the long term.

XIII. POPULATION AND HOUSING: Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion
The proposed Project will have **no impact** on Population and Housing.

XIV. PUBLIC SERVICES:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☒
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Discussion
The proposed Project is located on the Dr. Joe Waidhofer Water Treatment Plant campus; with have **no impact** on public services.

XV. RECREATION:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project 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?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

The proposed Project is sited on private land which will not increase or decrease any public recreational activities therefore the project has **no impact** on recreation.

XVI. TRANSPORTATION/TRAFFIC: Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Discussion:

The Project site is located within a private property. There will be ample parking for the construction crews, as well as, emergency access. These access ways also allow the construction activities to be located far enough from the public road that it will not conflict with existing modes of transportation. Therefore there would be **no impacts** to parking, emergency access, or any existing modes of transportation.

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion:

It is anticipated that construction would not require the use of, or alter in any way, these utility and service systems; therefore, the proposed Project would have **no impact**.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Discussion:

The Project will provide a supplemental water supply to an existing water treatment plant and will be constructed within the private property of the treatment plant**.** Therefore, the Project will have **no impact** on the quality of the environment, fish or wildlife species or habitat, or California history or prehistory.

Biological Assessment

Stockton East Water District

Aquifer Storage and Recovery Well Study and Design Project

Prepared for:

Stockton East Water District

September 2023

Prepared by:

GEI Consultants

Consulting Engineers and Scientists

Biological Assessment

Stockton East Water District

Aquifer Storage and Recovery Well Study and Design Project

Prepared for:

Stockton East Water District
6767 East Main Street
Stockton, CA 95215

Contact:

Darrel Evensen
District Engineer
209-444-3119

Prepared by:

GEI Consultants
2868 Prospect Park Drive
Rancho Cordova, CA 95670

Contact:

Rodney Fricke
Project Manager
916-407-8539

September 2023

Project No. 2301364

Table of Contents

List of Tables

List of Figures

List of Appendices

Abbreviations and Acronyms

ASR	Aquifer Storage and Recovery
BA	Biological Assessment
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
District	Stockton East Water District
ESA	Endangered Species Act
NMFS	National Marine Fisheries Service
Project	Aquifer Storage and Recovery Well Study and Design Project
Reclamation	U.S. Bureau of Reclamation
USFWS	U.S. Fish and Wildlife Service

1.0 Introduction

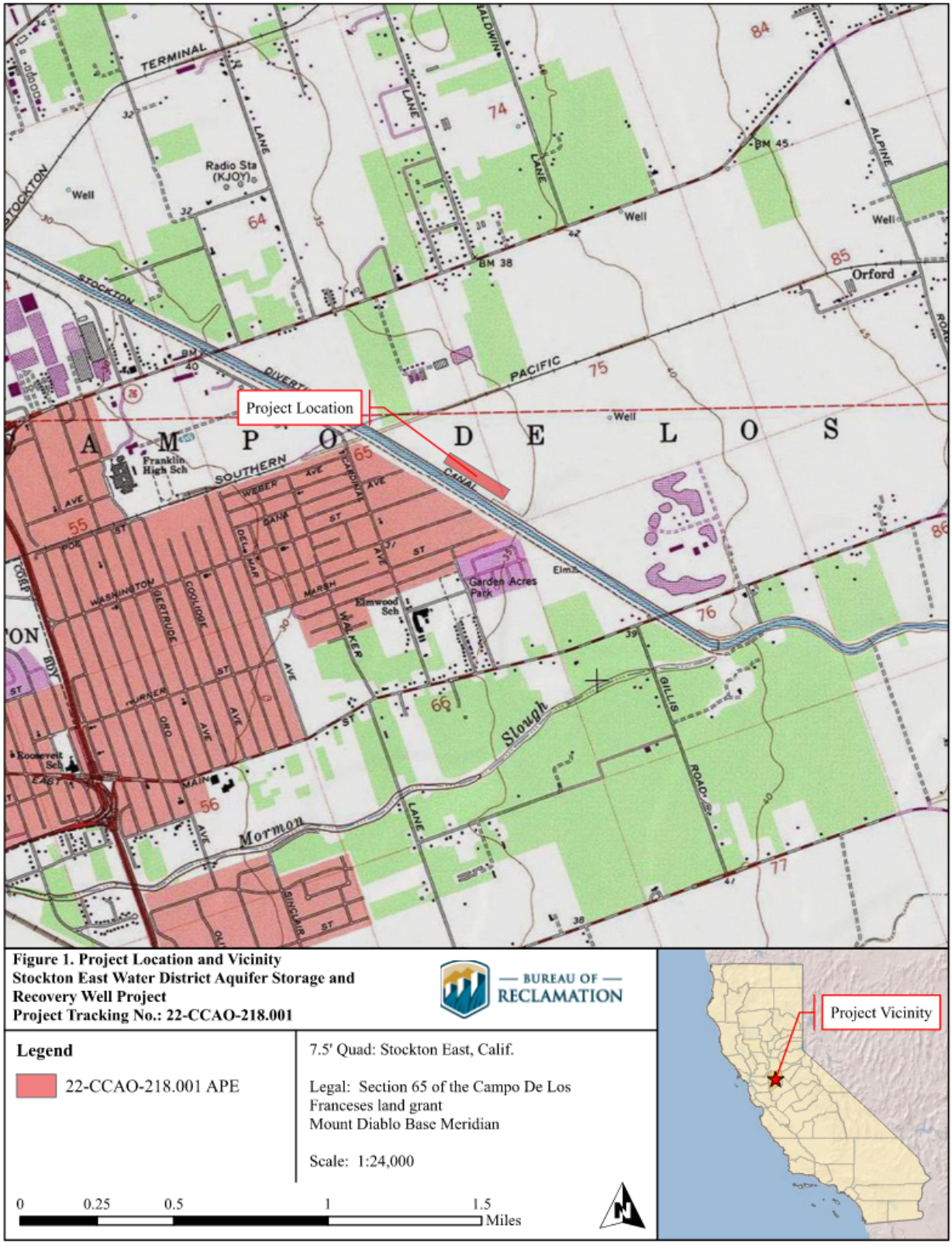
The Stockton East Water District (District) is located east of the city of Stockton, California (**Figure 1**). This biological assessment (BA) analyzes the District's Aquifer Storage and Recovery (ASR) Well Study and Design Project (Project). Implementation of this Project would allow the District to store excess surface water by recharging the aquifer during periods of high river flow or above-average water years. The Project is partially funded with a Water SMART grant from the U.S. Bureau of Reclamation (Reclamation).

The Project would install a new ASR well at the District's Treatment Facility to replace the existing Well 74-01. To support the new ASR well, two new pipelines would be installed underground for the recharge and recovery water. The approximate footprint of construction activities is 5.6 acres composed of predominately annual grasses. There are no bodies or water or wetlands in the construction footprint.

Section 7(a)(2) of the Endangered Species Act (ESA) (16 United States Code 1536[c]) directs Federal agencies to ensure that their activities are not likely to jeopardize the continued existence of any listed species, or to result in the destruction or adverse modification of designated critical habitat. This section of the ESA also requires agencies with regulatory authority over listed species to issue biological opinions evaluating the direct and indirect effects of Federal actions, and actions that are interrelated or interdependent with the Federal action. The biological opinions must determine whether the actions being evaluated may appreciably reduce the listed species' likelihood of surviving or recovering in the wild by reducing their productivity, numbers, or distribution.

This BA addresses potential effects on species listed as endangered or threatened under the ESA of 1973, as amended, that could result from Reclamation providing funding for the Project. The action of providing federal funding triggers the need for Reclamation to comply with the ESA and consult with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), as appropriate. If the Project may affect a listed species or designated critical habitat, formal consultation is required, except when USFWS and NMFS concur, in writing, that the Project is not likely to adversely affect listed species or designated critical habitat (50 Code of Federal Regulations [CFR] Sections 402.02 and 402.14). This BA has been prepared in accordance with legal requirements set forth under Section 7 of the ESA (16 United States Code 1536[c]). This BA considers species under USFWS and NMFS jurisdictions.

Figure 1. Project Location



Source: GEI Consultants, Inc. 2023

2.0 Action Area

The action area is defined here in accordance with ESA guidelines as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR 402.02). The action area includes all areas that would be directly or indirectly affected by the components of the proposed action. For the purposes of this BA, the action area includes the construction footprint (i.e., the location of the new ASR well, well house building, new pipelines, soil stockpile areas, staging areas, and access roads) and a 200-foot-wide buffer around the construction footprint to account for indirect effects, such as noise and dust disturbance, to adjacent habitats (**Figure 2**).

The action area is located on the southeastern side of the city of Stockton in Section 65 of the Campo De Los Frances land grant system. The total acreage of the construction footprint, including all construction activities and associated staging and access, is approximately 5.6 acres. The new ASR well will be dug to a depth of up to 820 feet below the existing ground surface, and the pipeline trenching will be dug to depth of 5 feet below the existing ground surface.

The construction footprint is composed of annual grassland and bare earth areas. Approximately one third of the construction footprint is bare earth with no vegetation cover. The remaining area is annual grassland, with common species observed to include wild oats (*Avena spp*.), common sunflower (*Helianthus annus*), bindweed (*Convolvulus arvensis*), and yellow starthistle (*Centaurea solstitialis*). Two dirt roads running northwest to southeast are included in the construction footprint and will be used for access. Surrounding the construction footprint and captured in the encompassing 200-foot buffer, is a tomato field to the northeast and the Stockton Diverting Canal levee and riparian zone to the southwest (Figure 2). Annual grassland is present on the levee slopes and the area between the levee and the canal. In the immediate vicinity of the canal, is a mix of grassland species and riparian understory species, such as willows (*Salix* spp.) and Himalayan blackberry (*Rubus armeniacus*). The levee and riparian zone around the canal are captured in the buffer of this impact analysis, but they are not being impacted by Project activities. The only tree species in the action area is tree of heaven (*Ailanthus altissima)*. These occur in clusters, mostly concentrated along the road running between the construction footprint and the tomato field, with some small (<5-foot-tall) individuals scattered around the action area.

Topography of the action area is generally flat, with an average elevation of approximately 40 feet above mean sea level. Representative photographs of all portions of the action area are provided in **Appendix A**: Photographs.

This page intentionally left blank.

Figure 2. ASR Well Study and Design Project Action Area.

Note: Location of New Recharge Water Pipeline is conceptual and may change with final design.

Source: GEI Consultants, Inc. in 2023.

This page intentionally left blank.

3.0 Species and Critical Habitat Considered

3.1 Federally Listed Species

Species addressed in this BA include those on the official species list obtained from USFWS (USFWS 2023a) (**Appendix B**), the USFWS Environmental Conservation Online System website (USFWS 2023b), California Natural Diversity Database (CNDDB) (CDFW 2023), and the California Native Plant Society's Inventory of Rare and Endangered Plants (CNPS 2023). These databases were reviewed for information on range and occurrences of these species in the Project vicinity. Scientific articles and other documents on species distribution and habitat use also were reviewed. A survey of the action area was conducted by GEI Consultants, Inc. biologist, Maggie Woodworth, on September 20, 2023, to assess habitat suitability for federally listed plants and animals included on the compiled species lists.

Based on observations made during the field survey and review of species database occurrences and other available information, giant garter snake (*Thamnophis gigas)* is the only federally listed species determined to have potentially suitable habitat in the action area; therefore, it is analyzed in detail in this BA. Information on federally listed species dismissed from further consideration in this BA is provided in **Table 1**. The species dismissed from further consideration are restricted to habitats that are not present in the action area and, thus, have no potential to occur in the action area nor be affected by the Project.

Table 1. Federally Listed Species Eliminated from Consideration

Species	Federal Listing Status	Reason for Elimination from Consideration
Fish		
Steelhead – Central Valley distinct population segment *Oncorhynchus mykiss irideus pop.11*	Threatened	The action area is adjacent to critical habitat for this species (Stockton Diverting Canal), but the Project would not affect the aquatic habitat or riparian zones. There is a 200-foot-wide buffer and a levee in-between the habitat and the construction footprint.
Invertebrates		
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened	No suitable habitat is present in or adjacent to the action area.
Monarch butterfly *Danaus plexippus*	Candidate	No suitable habitat is present in or adjacent to the action area.
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*	Threatened	No suitable habitat is present in or adjacent to the action area.
Vernal Pool Tadpole Shrimp *Lepidurus packardi*	Threatened	No suitable habitat is present in or adjacent to the action area.
Amphibians		
California Tiger Salamander *Ambystoma californiense*	Threatened	No suitable habitat is present in or adjacent to the action area.
Mammals		
Riparian Brush Rabbit *Sylvilagus bachmani riparius*	Endangered	No suitable habitat is present in or adjacent to the action area.

Source: CDFW 2023; CNPS 2023; GEI data collected in 2023; USFWS 2023a, 2023b, and 2023d; Western Monarch and Milkweed Occurrence Database 2018.

3.2 Critical Habitat

The USFWS online map of critical habitat for federally listed species (USFWS 2023c) was reviewed for proposed or designated critical habitat in the Project vicinity. The Project does not overlap proposed or designated critical habitat for any terrestrial species, and critical habitat for species under the jurisdiction of USFWS does not occur within 4 miles of the action area.

The adjacent Stockton Diverting Canal is designated critical habitat for the Central Valley Distinct Population Segment of steelhead (*Oncorhynchus mykiss irideus)* (NOAA Fisheries 2023). The edge of the canal channel is approximately 200 feet from the boundary of the construction footprint. A chain-link fence and levee further separate the canal from the construction footprint. There will be no effects to aquatic or riparian habitats, and because all Project activities are occurring on the landside of the levee, there is no chance of runoff, equipment, or other Project impacts to enter the canal or the riparian zone. Therefore, the steelhead critical habitat in the Stockton Diverting Canal will not be adversely modified by Project activities. Thus, there is no potential for Project activities to impact any aquatic or terrestrial designated critical habitats and this issue is not discussed further in this BA.

4.0 Description of the Proposed Action

4.1 Project Description

The following section provides details of the Project components. Please see Appendix A for photographs of the construction footprint described herein.

4.1.1 Project Activities

The Project will install a new ASR well at the District's Treatment Facility to replace the existing Well 74-01. An ASR well in this location would allow the District to store excess surface water during above-normal water years by recharging the aquifer.

The ASR well would be installed using a reverse rotary drilling rig. Equipment supporting this effort includes a pipe truck (drill rods), water truck, fluid/solids separation tanks, additional support vehicles, and other necessary equipment. A pump rig would be used to set a test pump to determine the capacity of the well, and then a production pump with an ASR flow control valve would be installed, based on well capacity. An approximately 10,000-square-foot area would be needed for the installation of the well, with an additional 100-square-foot area remaining around the well for aboveground piping and controls.

In addition to the construction of the new ASR well, two new pipelines will be installed for the recharge water and the recovered water. To install the recharge pipeline, a 2-foot-wide by 5-foot-deep trench extending up to 800 feet will be excavated between the ASR well and the existing Calwater Discharge Pipeline. To install the recovered water pipe, a 2-foot-wide by 5-foot-deep trench extending up to 50 feet will be excavated from the ASR well to the meter vault at Well 74-01. The pipelines from the new ASR well will connect to a flow meter vault (in-ground) and existing valves.

The well house building on site will remain in place. Well 74-01 is located inside the building and will be destroyed with a sand cement grout. Also inside the well house building is a separate chlorine treatment room. The use of this treatment system and room was discontinued many years ago, and the Project will not affect them. An existing perimeter fence around the well house building will be removed temporarily at the northeast corner to accommodate the new ASR well construction.

Approximately 850 linear feet of new conveyance piping would be installed and connected to existing pipelines, check valves, air vents, and flow meters for the aboveground components. Standard construction equipment would be used for installation and all excavated material would be placed with the nearby soil stockpile.

4.2 Conservation Measures

The following measures would be implemented by the District and its construction contractor(s) to avoid and minimize potential adverse effects on giant garter snake and other fish and wildlife and their habitats.

- Where feasible and practicable (e.g., based on the size of the action area and work to be performed), clearly mark work area limits (e.g., with flagging or fencing), including access roads; staging and equipment storage areas; fueling and concrete washout areas; and equipment exclusion zones. Work will occur only within the marked limits.

- All excavated trenches more than 2 feet deep will be covered with plywood or similar materials at the end of each workday. If the trenches cannot be closed, one or more escape ramps will be constructed of earthen-fill or created with wooden planks. All covered or uncovered excavations will be inspected, for the presence of giant garter snake at the beginning of each day and before filling

- If erosion control fabrics are used, products will not be used with plastic monofilament or cross-joints in the netting that are bound/stitched (such as straw wattles, fiber rolls, or erosion control blankets), which could trap giant garter snakes and other wildlife.

- Before project activities begin, a Worker Environmental Awareness Program will be presented to all project personnel working on the project site. The program will be conducted by a qualified biologist with knowledge of giant garter snake. The program will address the following: biology and habitat needs; regulatory status and protection; measures required to reduce potential impacts during project construction; penalties for non-compliance; and benefits of compliance.

- A qualified biologist will be onsite monitoring for the presence of giant garter snake during vegetation removal and initial ground disturbance. The District will keep a qualified biologist on an on-call basis during all other project-related activities.

- All giant garter snakes encountered will not be harassed, harmed, or killed and will be allowed to leave the construction area on their own volition, and project activities in the immediate vicinity will stop until the animal moves away. The biologist will notify the USFWS immediately if any listed species are found on-site, and will submit a report, including date(s), location(s), habitat description, and any corrective measures taken to protect the species found.

- Project personnel will inspect under all vehicles and heavy equipment for the presence of wildlife before the start of each workday when equipment is staged overnight. Additionally, all pipes, culverts, and similar structures that have been stored on-site for one or more nights will be searched for wildlife before being buried, capped, or moved.

- Maintain a 10-mile-per-hour speed limit along access routes, except on county roads and state and federal highways.

- All food-related trash items such as wrappers, cans, bottles or food scraps generated during project activities will be disposed of in closed containers and removed daily from the project site. No deliberate feeding of wildlife will be allowed.

- No domestic pets associated with project personnel will be permitted on the project site.

This page intentionally left blank.

5.0 Status of Species in the Action Area

The giant garter snake is federally listed as threatened (Federal Register 58:54053). The snake was historically found in most of the wetlands of the Central Valley, but today the species has a more limited distribution, ranging from Butte County in the north to Fresno County in the south. They inhabit wetlands such as marshes, sloughs, ponds, small lakes, and other waterways. They also occupy agricultural wetlands including rice fields, irrigation canals, and drainage ditches. They prefer wetlands with vegetation cover both in the water channel and on the banks, as they depend on cover to hide from predators (USFWS 2017). They are typically absent from large rivers; wetlands with sand, gravel, or rocky substrates; and riparian areas lacking suitable basking sites or prey populations (Hansen and Brode 1980). They generally remain active through the summer months, and then become inactive or greatly reduce their activities during late fall and winter, hibernating from October to March in abandoned burrows of small mammals located above prevailing flood elevations (Fisher et al. 1994). Although they are always associated with aquatic habitats, giant garter snakes also depend on suitable upland habitat for basking and shelter during cold weather (USFWS 2017).

Suitable giant garter snake habitat has all features necessary to support permanent populations of the species, including: (1) fresh-water aquatic habitat with protective emergent vegetative cover that will allow foraging; (2) upland habitat near the aquatic habitat that can be used for thermoregulation and for summer shelter in burrows; and (3) upland refugia that will serve as winter hibernacula (USFWS 2017). The width of uplands used by giant garter snake varies considerably; however, suitable upland located within 200 feet of aquatic habitat is generally considered adequate to capture the typical area of use for a giant garter snake-(USFWS 2017).

The Project is located within the Stockton Management Unit of the Delta Basin Recovery Unit for this species (USFWS 2020). The CNDDB (CDFW 2023) identifies one documented occurrence of giant garter snake within 5 miles of the action area; this locality record is the only one that is within the Stockton Management Unit (USFWS 2017). This occurrence is from 1976 and is approximately 2 miles northwest of the action area along the Stockton Diverting Canal. The occurrence report notes that subsequent surveys of the location in the mid-1980s yielded no detections. The immediate vicinity surrounding this area is highly developed with residential neighborhoods, shopping centers, and industrial complexes.

As observed during the September 2023 field surveys, the Stockton Diverting Canal near the action area was characterized by an approximately 15-foot-wide water channel with marginal emergent vegetation in the water (Appendix A: Photo 7). The banks were steep and were composed of a mix of grassland and riparian plant species. The sides of the associated levee were covered in annual grassland species, and pedestrians were observed recreating on the levee crown. Northwest of the action area, the canal is surrounded by urban development and farmlands until it eventually reaches full urbanization in the City of Stockton. Southeast of the action area, the canal is surrounded by

additional farmlands dominated by upland agriculture and row crops. The potential upland habitat in the action area is low quality, with approximately one third of it having sparse to no vegetation.

The Stockton Diverting Canal may provide suitable aquatic habitat and suitable upland habitat where annual grasslands are within 200 feet of the canal. However, there is little evidence to suggest that giant garter snake still occupy the vicinity of the 1976 occurrence, considering the amount of urbanization and absence of other suitable habitats in the greater vicinity. Therefore, any suitable aquatic habitat in the canal is likely isolated and lacks connectivity to other suitable aquatic habitat. Additionally, any associated upland habitat in the action area is marginal in quality, as it has large pockets of exposed soil that do not provide the cover that giant garter snakes require. Therefore, giant garter snake is very unlikely to occur in the action area.

6.0 Effects of the Proposed Project

Based on desktop review and observations of habitat conditions within and adjacent to the action area, giant garter snakes are not anticipated to occupy the action area. Nevertheless, the Stockton Diverting Canal provides pockets of suitable habitat, and the action area contains marginally suitable upland habitat, so there is some potential for giant garter snake to occur. In the unlikely event a giant garter snake is present in the action area, Project-related activities could result in disturbance, displacement, or death of individuals. In addition, trash or food waste generated by Project activities could attract predators (coyotes, feral dogs) and expose any present giant garter snakes to increased risk of predation. However, any potential for take of giant garter snake would be greatly reduced by implementing the conservation measures outlined in section 4.2 of this report.

Any disturbance of displacement of giant garter snakes from the upland habitat in the action area would be temporary and limited to the period of Project-related activities. The temporary disturbance of giant garter snake upland habitat is not expected to be significant for this species within the action area or its overall range because the habitat is of marginal quality, is disconnected from other higher quality suitable habitat, and will revert back to its pre-Project condition after construction is complete. Disturbance of the habitat may impede some behaviors, but this is likely not significant to the species overall given that the aquatic habitat (Stockton Diverting Canal) is not being impacted, and, more importantly, the species may no longer occupy the area or only does so at low densities.

In summary, potential for adverse effects on giant garter snake would be minimized by implementing the conservation measures described above. Conducting worker training would ensure effective implementation of conservation measures and minimize potential for intentional and accidental ESA violations; conducting the pre-construction survey would identify areas that show potential evidence of giant garter snake occupation and establish avoidance buffers; conducting monitoring during vegetation clearing would confirm the upland habitat is unoccupied or determine the appropriate avoidance buffers to implement; limiting all Project activities to the construction footprint and access routes (existing barren or disturbed areas) would minimize direct disturbance of habitat that could support giant garter snake; covering holes and trenches or providing exit ramps and capping and/or inspecting pipes and culverts would avoid entrapment; and limiting Project activities to daytime hours during the summertime would minimize potential for giant garter snake to be dormant in the construction footprint when Project-related vehicles and equipment are operating. Effectively implementing these measures would avoid and minimize potential adverse effects to giant garter snake in the action area.

Considering the Project location, the low-quality habitat, the lack of recent detections in the vicinity, and the implementation of the conservation measures, the potential for Project activities to adversely affect giant garter snake is insignificant.

This page intentionally left blank.

7.0 Cumulative Effects

Under the ESA, cumulative effects are those effects of future state, tribal, local, or private actions that are reasonably certain to occur within the action area of the Federal action subject to consultation (50 CFR 402.2). Future Federal actions that are unrelated to the proposed action are not considered in this assessment because they require separate consultation under Section 7 of the ESA.

Routine agricultural activities and other private landowner actions are likely to be ongoing in the action area. All of these potential future activities could alter habitat for and/or increase incidental take of giant garter snake and other Federally listed species and would be cumulative to the effects of the proposed action. Reclamation is not aware of any other future state, Tribal, local, or private actions that are reasonably certain to occur within the action area.

This page intentionally left blank.

8.0 Conclusion

The Project may affect, but is not likely to adversely affect, giant garter snake. Potential for this species to occupy the action area is very low, and implementation of the conservation measures would avoid or minimize potential for adverse effects to occur. With implementation of these measures, potential effects would be insignificant.

This page intentionally left blank.

9.0 References

CDFW (California Department of Fish and Wildlife). 2023. California Natural Diversity Database. Commercial Version. Biogeographic Data Branch. Available at https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed September 18, 2023.

California Native Plant Society, Rare Plant Program. 2023. *Rare Plant Inventory* (online edition, v9.5). Available at https://www.rareplants.cnps.org. Accessed September 16, 2023.

Fisher, R., G. Hansen, R. W. Hansen, and G. Stewart. 1994. Giant garter snake. Pages 284-287 in C. G. Thelander and M. Crabtree, editors. Life on the edge: a guide to California's endangered natural resources, wildlife. Biosystems Books, Santa Cruz, California.

Hansen, G. E., and J. M. Brode. 1980. Status of the Giant Garter Snake *Thamnophis couchii gigas* (Fitch). Inland Fisheries Endangered Species Special Publication 80(5):1–14. California Department of Fish and Game, Sacramento, CA.

NOAA (National Oceanic and Atmospheric Administration) Fisheries. 2023. Critical Habitat – Maps and GIS Data [web application]. Available at https://www.fisheries.noaa.gov/resource/map/critical-habitat-maps-and-gis-data-west-coast-region. Accessed September 19, 2023.

USFWS (U.S. Fish and Wildlife Service). 2017. Recovery Plan for the Giant Garter Snake (*Thamnophis gigas*). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California vii + 71 pp.

_____. 2020. Giant Garter Snake (*Thamnophis gigas*) 5-Year Review: Summary and Evaluation. Sacramento Fish and Wildlife Office. Sacramento, CA.

2023a. *List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project.* Sacramento Fish and Wildlife Office, Sacramento, CA. Accessed September 16, 2023.

_____. 2023b. Environmental Conservation Online System. Available at: https://ecos.fws.gov/ecp/. Accessed September 18, 2023.

_____. 2023c. Critical Habitat for Threatened and Endangered Species. Available at: https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77. Accessed September 18, 2023.

_____. 2023d. National Wetlands Inventory Mapper [web application]. Available at https://www.fws.gov/wetlands/data/mapper.html. Accessed September 19, 2023.

Western Monarch and Milkweed Occurrence Database. 2018. Data accessed from the Western Monarch Milkweed Mapper, a project by the Xerces Society, U.S. Fish and Wildlife

Service, Idaho Department of Fish and Game, and Washington Department of Fish and Wildlife. Available: www.monarchmilkweedmapper.org. Accessed: September 19, 2023.

Appendix A Photographs of the Action Area

Photo 1- Proposed site of the ASR well.

Photo 2 - Pump house building.

Photo 3 - Representative site photo showing grassland plant community.

Photo 4 – View from action area looking west towards the Stockton Diverting Canal and associated levee.

Photo 5- Bare section of action area.

Photo 6- Plant community approximately 20-feet from the Stockton Diverting Canal, composed of a mix of grassland and riparian species.

Photo 7- Stockton Diverting Canal.

Appendix B U.S. Fish and Wildlife Service Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: September 16, 2023
Project Code: 2023-0129787
Project Name: SEWD Aquifer Storage and Recovery Well Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2023-0129787
Project Name: SEWD Aquifer Storage and Recovery Well Project
Project Type: Water Supply Facility - Maintenance / Modification
Project Description: The Stockton East Water District Aquifer Storage and Recovery Well Project consists of the installation of an aquifer storage and recovery (ASR) well at the Stockton-East Water District Treatment Facility to replace the existing Well 74-01. Implementation of an ASR project would allow SEWD to store excess surface water by recharging the aquifer during periods of high river flow or during above-normal to wet water years. The ASR well will be installed using a reverse rotary drilling rig, which will be supported by a pipe truck (drill rods), water truck, fluid/solids separation tanks, and other equipment plus support vehicles. A pump rig would be used to set a test pump to determine the capacity of the well and then a production pump with an ASR flow control valve, based on the well capacity. A nominal 10,000-square-foot area on the surface will be needed for the installation of the well, with a nominal 100-square-foot area remaining around the well for above ground piping and controls. The well itself will be placed in a 48-inch diameter borehole extending up to 820 feet below existing ground surface. In addition to the construction of the new ASR well, two new pipelines will be installed for the recharge water and for the recovered water. This work involves excavating a two-foot wide by five-foot deep trench extending up to 800 feet for the recharge water pipeline between the ASR well and the existing Calwater Discharge Pipeline and up to 50 feet for the recovered water pipeline from the ASR well to the meter vault at Well 74-01. The pipeline from the new ASR well will connect to flow meter vault (in-ground) and existing valves. Well 74-01, located inside the well house building, will be destroyed with a sand cement grout. Control systems for ASR operations will be located in the well house. A portion of the well building included a separate chlorine treatment room, and the

use of this treatment system and room was discontinued many years ago. The ASR well will not utilize a disinfection treatment system, although the entire well house building will remain in place. An existing perimeter fence will be removed temporarily at the northeastern corner to accommodate the new ASR well construction. Standard construction equipment would be used to install approximately 850 linear feet of new conveyance piping to the existing pipelines, and corresponding check valves, air vents, and flow meters for the above-ground components. Excavated material would be placed with the nearby stockpile of soil.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.96770225,-121.21570443863564,14z

Counties: San Joaquin County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. 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.

MAMMALS

NAME	STATUS
Riparian Brush Rabbit *Sylvilagus bachmani riparius*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/6189

REPTILES

NAME	STATUS
Giant Garter Snake *Thamnophis gigas*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/4482

AMPHIBIANS

NAME	STATUS
California Tiger Salamander *Ambystoma californiense*	Threatened

Population: U.S.A. (Central CA DPS)
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2076

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Maggie Woodworth
Address: 2868 Prospect Park Dr.
Address Line 2: Suite 400
City: Rancho Cordova
State: CA
Zip: 95670
Email maggiewoodworth@gmail.com
Phone: 9166314500

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Stockton city

This page intentionally left blank.

Cultural Resources Inventory and Evaluation Report for the Aquifer Storage and Recovery Well Study and Design Project Stockton, San Joaquin County, California

Prepared for:

Stockton East Water District

December 2023

Prepared by:

GEI Consultants

Consulting Engineers and Scientists

Draft

Cultural Resources Inventory and Evaluation Report for the Aquifer Storage and Recovery Well Study and Design Project Stockton, San Joaquin County, California

Prepared for:

Stockton East Water District
6767 East Main Street
Stockton, CA 95215

Prepared by:

GEI Consultants, Inc.
2868 Prospect Park Drive, Suite 400
Sacramento, CA 95670

Contact:

Madeline Bowen
Senior Architectural Historian
916.912.4939

Madeline Bowen, Sr. Architectural Historian

Jesse Martinez, RPA, Sr. Archaeologist

December 6, 2023

Project No. 1801694

This page intentionally left blank

Table of Contents

Tables

Figures

Appendices

Abbreviations and Acronyms

APE	Area of Potential Effect
ASR	Aquifer Storage and Recovery
BERD	Built Environment Resource Directory
CCIC	Central California Information Center
CCTS	Central California Taxonomic System
CFR	Code of Federal Regulations
CHSC	California Health and Safety Code
City	Stockton
Company	Stockton Water Works Company
County	San Joaquin County
CWS	California Water Service
District	Stockton East Water District
DPR	California Department of Parks and Recreation
GEI	GEI Consultants, Inc.
GIS	Geographic Information System
MA	Master of Arts
MLD	Most Likely Descendant
NAHC	Native American Heritage Commission
NPS	National Park Service
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
PRC	Public Resource Code
Project	Aquifer Storage and Recovery Well Study and Design Project
Reclamation	U.S. Bureau of Reclamation
Section 106	Section 106 of the National Historic Preservation Act of 1966
SHPO	State Historic Preservation Officer
USGS	U.S. Geological Survey

This page is intentionally left blank.

Executive Summary

The Stockton East Water District (District) is proposing the Aquifer Storage and Recovery (ASR) Well Study and Design Project (Project). The Project would install a new ASR well at the District's Treatment Facility to replace the existing Well 74-01. To support the new ASR well, two new pipelines would be installed underground for the recharge and recovery water. Implementation of this Project would allow the District to store excess surface water by recharging the aquifer during periods of high river flow or above-average water years. The Project is partially funded with a Water SMART grant from the U.S. Bureau of Reclamation (Reclamation). Reclamation must approve a portion of the Project, therefore making the Project subject to Section 106 of the National Historic Preservation Act of 1966 (Section 106); Reclamation is the lead federal agency for compliance with Section 106. This report was prepared on behalf of the District to evaluate the potential Project-related impacts on historic properties to comply with the requirements of Section 106.

Inventory efforts to identify archaeological and historical resources included a records search conducted at the Central California Information Center, archival research, Native American Heritage Commission consultation, correspondence with Historical Societies, and a cultural resources pedestrian survey of the Project Area of Potential Effects (APE). This report also assessed the eligibility of cultural resources for inclusion in the National Register of Historic Places (NRHP). It concludes by assessing the potential effects of the proposed Project on those properties found to be NRHP-eligible and provides recommendations for their management.

As a result of these investigations, no archaeological resources and one historic-era (more than 45 years old) built environment resource was identified in the APE: Well 74-01. The resource was evaluated for NRHP significance and is recommended as not meeting the eligibility requirements. Because Well 74-01 appears ineligible for the NRHP, it is not considered a Historic Property per Section 106.

This study did not identify any Historic Properties in the APE. Therefore, pursuant to 36 CFR 800.4(d)(1), a finding of ***no historic properties affected*** is recommended for the proposed undertaking. No further cultural resources work is recommended.

This page is intentionally left blank.

Chapter 1. Introduction

This report describes work conducted to comply with Section 106 of the National Historic Preservation Act of 1966 (Section 106) and its implementing regulations (36 Code of Federal Regulations [CFR] Part 800) related to the Aquifer Storage and Recovery Well (ASR) Study and Design Project (Project). Section 106 requires federal agencies and entities that these agencies fund, authorize, or permit, consider the effects of their actions on properties that are listed, or may be eligible for listing, in the National Register of Historic Places (NRHP). To determine whether an undertaking could affect NRHP-eligible properties, cultural resources (including archaeological, locations of sacred importance to Native Americans, historical, and architectural properties) must be inventoried and evaluated. The investigations addressed in this report are part of the effort to inventory and evaluate these resources.

1.1 Project Description

The Project is located on approximately 5.6 acres in a rural area on the east side of the city of Stockton, Stanislaus County, California (**Figure 1-1**). The following section provides details of the Project components.

1.1.1 Project Activities

The Project will install a new ASR well at the District's Treatment Facility to replace the existing Well 74-01. An ASR well in this location would allow the Stockton East Water Storage District (District) to store excess surface water during above-normal water years by recharging the aquifer.

The ASR well would be installed using a reverse rotary drilling rig. Equipment supporting this effort includes a pipe truck (drill rods), water truck, fluid/solids separation tanks, additional support vehicles, and other necessary equipment. A pump rig would be used to set a test pump to determine the capacity of the well, and then a production pump with an ASR flow control valve would be installed, based on well capacity. An approximately 10,000-square-foot area would be needed for the installation of the well, with a 100-square-foot area remaining around the well for aboveground piping and controls.

In addition to the construction of the new ASR well, two new pipelines will be installed for the recharge water and the recovered water. To install the recharge pipeline, a 2-foot-wide by 5-foot-deep trench extending up to approximately 800 feet will be excavated between the ASR well and the existing Calwater Discharge Pipeline. To install the recovered water pipe, a 2-foot-wide by 5-foot-deep trench extending up to approximately 50 feet will be excavated from the ASR well to the meter vault at Well 74-01. The pipelines from the new ASR well will connect to a flow meter vault (in-ground) and existing valves.

The well house building on site will remain in place. Well 74-01 is located inside the building and will be destroyed with a sand cement grout. Also inside the well house building is a separate chlorine treatment room. The use of this treatment system and room was discontinued many years ago, and the Project will not affect them. An existing perimeter fence around the well house building will be removed temporarily at the northeast corner to accommodate the new ASR well construction.

Approximately 850 linear feet of new conveyance piping would be installed and connected to existing pipelines, check valves, air vents, and flow meters for the aboveground components. Standard construction equipment would be used for installation and all excavated material would be placed with the nearby soil stockpile.

1.2 Area of Potential Effects

The Project Area of Potential Effects (APE) is designed to include all locations and staging areas where both archaeological and built-environment resources could potentially be affected by the proposed Project. The APE includes the construction footprint and staging areas. It is depicted in **Figure 1-2.**

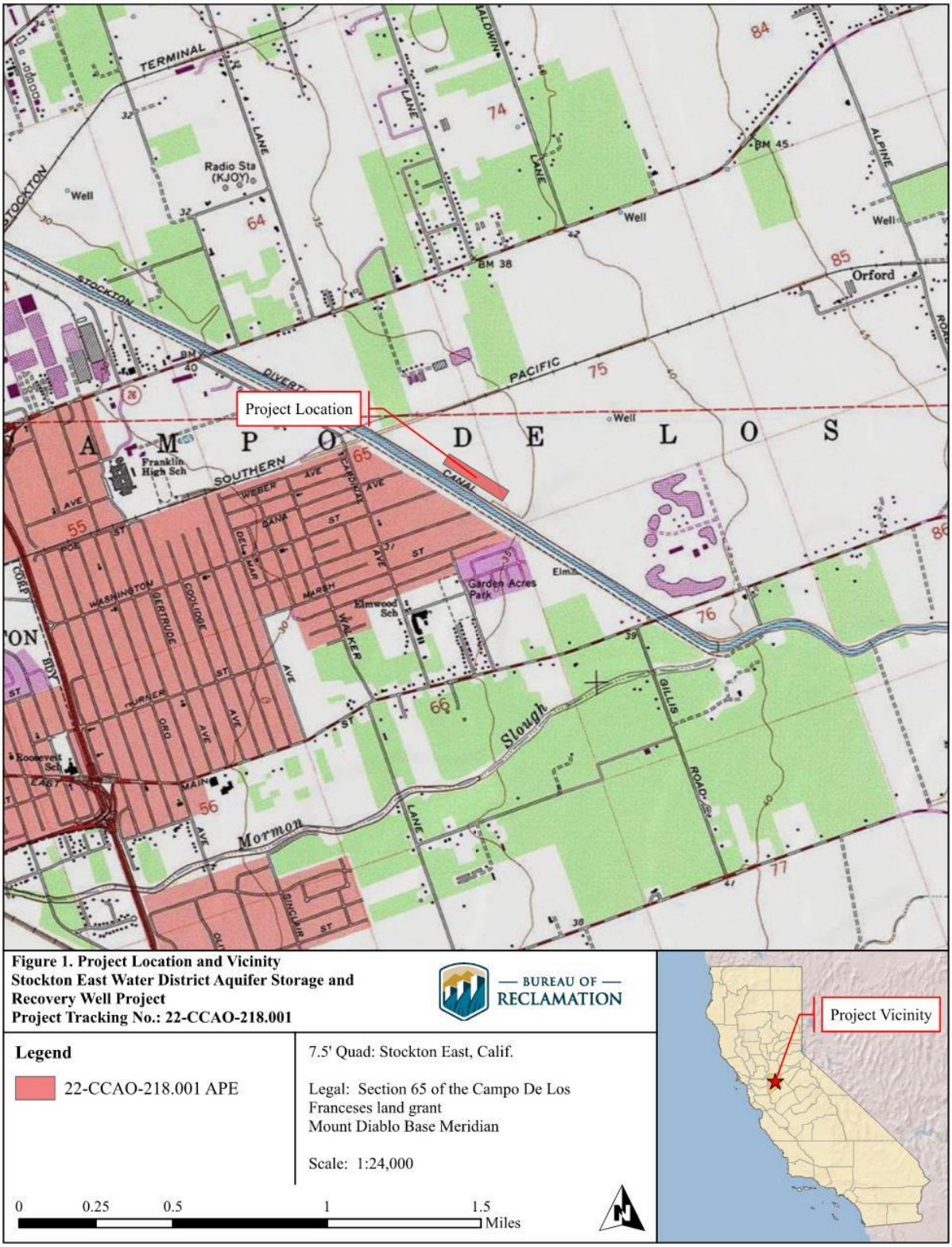


Figure 1-1. Project Location and Vicinity

Figure 1-2. Area of Potential Effects

This page is intentionally left blank.

Chapter 2. Regulatory Context

2.1 National Historic Preservation Act Section 106

The studies described in this report were conducted in compliance with Section 106. Section 106 requires that federal agencies and entities that these agencies fund or permit, consider the effects of their actions on properties that are listed in the NRHP, or that may be eligible for such listing. To determine whether an undertaking could affect NRHP-eligible properties, cultural resources (including archaeological, locations of sacred importance to Native Americans, historical, and architectural properties) must be inventoried and evaluated. Although compliance with Section 106 is the responsibility of the lead federal agency, others can conduct the work necessary for compliance such as in the case of this study.

The Section 106 review process consists of these steps:

1. Initiate the Section 106 process by establishing the undertaking, developing a plan for public involvement, and identifying other consulting parties.
2. Identify historic properties (resources that are eligible for inclusion in the NRHP) by determining the scope of efforts, identifying cultural resources within the area potentially affected by the Project, and evaluating properties' eligibility for NRHP inclusion.
3. Assess adverse effects by applying the Section 106 criteria of adverse effects to identified historic properties.

Resolve adverse effects by consulting with the State Historic Preservation Officer (SHPO) and other consulting agencies, including the Advisory Council on Historic Preservation, if necessary, to develop an agreement that addresses the treatment of historic properties.

2.1.1 NRHP Evaluation Criteria

The NRHP is the nation's master inventory of known historic resources. It is administered by the National Park Service (NPS) in consultation with the SHPO. The NRHP includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level. The NRHP criteria and associated definitions are outlined in the *National Register Bulletin: How to Apply the National Register Criteria for Evaluation* (NPS 1997). The following is a summary of that bulletin.

Properties (structures, sites, buildings, districts, and objects) more than 50 years of age can be listed in the NRHP provided they meet one of the evaluation criteria described below; however, properties less than 50 years of age that are of exceptional significance or are contributors to a district, that also meet the evaluation criteria, can be included in the NRHP.

The NRHP uses four criteria under which a property can be considered significant for listing.

A. Properties associated with events that have made a significant contribution to the broad patterns of history.

B. Properties associated with the lives of persons significant in our past.

C. Properties that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

D. Properties that have yielded or may likely yield information important in prehistory or history.

Properties can be listed individually or as contributors to a historic district.

In addition to meeting one of the evaluation criteria, a property must also retain integrity to convey that significance. Although the evaluation of integrity is sometimes subject to judgement, it must always be grounded in an understanding of the property's physical features and how they relate to its significance. The NRHP recognizes seven aspects of integrity, which are listed below.

- **Location**: The place where the historic property was constructed or the place where the historic event occurred.
- **Design**: The combination of elements that create the form, plan, space, structure, and style of a property.
- **Setting**: The physical environment of a historic property.
- **Materials**: The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- **Workmanship**: The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- **Feeling**: A property's expression of the aesthetic or historic sense of a particular period of time.
- **Association**: The direct link between an important historic event or person and a historic property.

Chapter 3. Cultural and Historic Context

3.1 Introduction

This chapter presents contextual background for the Project area, highlighting relevant information regarding resources that might be identified in the Project area.

3.2 Precontact Setting

The chronology constructed for the Sacramento Valley and Delta regions is often extended to the San Joaquin Valley. This chronology, known as the Central California Taxonomic System (CCTS), divides the prehistoric past into Early, Middle, and Late horizons, each defined more by artifact types and frequency than chronological methods. The stylistic divisions of the CCTS were further defined and incorporated with updated temporal information by Fredrickson, who proposed the Paleo-Indian, Archaic, and Emergent periods, each with associated date ranges and diagnostic artifact and burial styles (Fredrickson 1974, 1994).

3.2.1 The Paleo-Indian Period (11,550-8550 cal B.C.)

There is little evidence for terminal Pleistocene-early Holocene habitation in the San Joaquin Valley. Changing climate at the end of the Pleistocene brought floods, which covered much of the Central Valley with layers of alluvial soils that buried evidence of human occupation. People living in the San Joaquin Valley during this time are thought 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).

In Tulare County, sites have been identified along the shoreline of the now-dry Tulare Lake, roughly 170 miles south of the Project area. Concave base fluted projectile points are one of the diagnostic artifacts for the Paleo-Indian Periods. In Kings County, the Witt site (CA-KIN-32) contained hundreds of concave base points and uncalibrated dates on nearby collected bone date to between 10,788 and 17,745 years ago (Rosenthal et al. 2007).

3.2.2 The Lower Archaic (8550-5550 cal B.C.)

The ancient shores of Tulare Lake are the nearest location for discovery of Lower Archaic period sites. In this area, south of the Project, stemmed projectile points (e.g., Borax Lake, Lake Mojave, Silver Lake, and Pinto point styles), chipped stone crescents, and bi-pointed “humpies” have been discovered (Rosenthal et al. 2007). Lower Archaic period artifacts found within the San Joaquin Valley are often found as isolates, without associated faunal bone or food processing tools, such as milling equipment.

3.2.3 The Middle Archaic (5550-550 cal B.C.)

Settlement patterns became more stable, especially along river corridors, towards the end of the Middle Archaic period (Rosenthal et al. 2007). During the Middle and Upper Archaic periods, the Windmiller 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 in which 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).

3.2.4 The Upper Archaic (550 cal B.C. to cal A.D. 1100)

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 riversand 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, very few have been found in the northern San Joaquin Valley where the Project is located (Rosenthal et al. 2007).

3.2.5 The Emergent Period (cal A.D. 1000 to the Historic Era)

The Emergent Period was a time of economic diversity, including the expansion of trade networks, the increased social inequity, and the introduction of clamshell disc beads as a kind of currency (Fredrickson 1994). The introduction of bow and arrow technology saw several new styles of small projectile points developed; in the southern San Joaquin Valley, the most common of the new types were Cottonwood style points.

3.3 Ethnographic Setting

The Project is located in the ethnographic territory of the Northern Valley Yokuts (Wallace 1978). The nearest population estimates are from Cook in reference to the lower Merced River, which he estimates to be approximately 3,500 individuals (Cook 1955: 51). This estimate, however, is derived from information gathered from the vicinity and east side of the San Joaquin River, where populations were concentrated.

Unlike the Southern Yokuts, there are few ethnographic accounts from the Spanish, or any source, describing subsistence activities in any detail regarding the Northern Yokuts, but descriptions of neighboring tribes' subsistence patterns can supplement the little direct information available. The

Yokuts economy in general depended heavily on fishing, waterfowl, and gathering shellfish, roots, and seeds. (Gayton 1948:14-15; Wallace 1978).

Various techniques were employed for catching waterfowl: snares and nets; shooting waterfowl from tule rafts while camouflaged; spring poles with triggers; water skipping arrows; and stuffed decoys. Eggs of waterfowl were harvested. Salmon was especially important among fish resources (Gayton 1948:15; Wallace 1978). Plant resources were vital components of the diet and a wide variety of plant foods were used. Wild seeds and roots were a large part of the diet; tule roots were gathered, dried, pounded, and used as a flour (Gayton 1948:15; Wallace 1978). Tule, grass, and flowering herb seeds were gathered by using a seed beater and basket. Grass nuts were roasted or made into a meal. Clover was an important food as was yellow mustard, fiddle-neck, and filaree (usually eaten with salt grass). Many plants were also used as medicines. Acorns, rare for most Yokuts, was a staple for the Northern Yokuts (Gayton 1948:15-16; Wallace 1978).

Several types of structures were built by the Yokuts. The most basic were single family houses with oval floors and tule mats on a wooden frame. Communities did not appear to organize residences along lines, like Southern Yokuts, nor did they have the long, communal residences found to the south. They did, however, construct earth covered sweat houses and, unique among the Yokuts, ceremonial assembly houses (Gayton 1948:11-13; Wallace 1978).

There was no political unity between the various Yokuts tribes. Local groups of about three hundred individuals in associated villages made up politically autonomous units. Settlements tended to be built on low mounds on or near large water courses. Floods from melting snows from the Sierra Nevada Mountains was a danger, but populations were apparently very sedentary because of abundant riverine resources. Villages would break up seasonally to harvest plants, though some part of the population always stayed in villages (Wallace 1978).

3.4 Historic Context

3.4.1 San Joaquin County

Lieutenant Moraga was the first European explorer to enter the area during the early 1800s. He named it San Joaquin after Saint Joachim (California State Association of Counties 2023). For most of the first half of the 19th century, the land was used for cattle grazing and hunting.

San Joaquin County (County) was one of the original counties established in California when the state acquired statehood in 1850. During this period, the county was involved in agricultural activities such as the cultivation of barley, oats, corn, potatoes, and wheat. Farmers introduced stones fruits and a variety of vegetable crops in the latter part of the century (*An Illustrated History: San Joaquin County, California* 1890: 109). The Central Pacific Railroad operated the San Joaquin line through the County by the 1870 which significantly increased the County's ability to ship agricultural goods to a larger market, and also attracted more settlers to the area. The 20th century represented a massive expansion in agricultural pursuits throughout the County. As the population grew, additional land underwent cultivation transformations. As of 2018, the County produced

over 2.5 billion foodstuff on 920,000 acres. Currently, the County has a population of 773,632 (SEWD 2023; California State Association of Counties 2023).

Stockton

Charles Weber was an early settler in the region, and in 1850 he established the settlement of Stockton (San Joaquin County Historical Museum 2023; *An Illustrated History: San Joaquin County,* California 1890: 61). In 1850, coupled by the growing popularity of the Gold Rush, the settlement grew to over 1,000 residents. (*An* Illustrated *History: San Joaquin County, California* 1890: 32).

By 1928, the settlement transformed into a city and had a population of 56,000 (Stockton 2023). Port of Stockton opened in 1933 which was the first inland seaport in California. The port allowed for ships from all over the world to access the inner area of the state, which also assisted with the Stockton's export ventures. The City grew after World War II as industrial and residential developments emerged throughout the region (Stockton 2023). The primary industry was agriculture, which continues to be the mainstay of the local economy. Common crops include grapes, walnuts, almonds, cherries, and asparagus (City of Stockton 2023).

Garden Acres Neighborhood

The Garden Acres Neighborhood is located immediately adjacent to the SEWD facility. Prior to the construction of Garden Acres, in 1914, the area consisted of rural farmland. In addition, the Southern Pacific Railroad laid an alignment through the area (USGS Burnham 1914). The Garden Acres Neighborhood is located immediately adjacent to the SEWD treatment facility and was established circa 1952 in the post-World War II era (USGS Stockton East 1952). During this period, developers constructed numerous suburban neighborhoods throughout the region as the nation was enjoying a post-war economic boom. The Garden Acres Neighborhood features residences mostly designed in the Ranch style. Currently, the neighborhood has roughly 11,398 residents on 2.5 square miles, and the railroad and school are still present in the area from 1914 (USCB 2023).

3.4.2 Irrigation and Water Supply

Irrigation and water supply became an important factor to the County's growing agricultural industry by the 1870s. To address water supply demands, several firms in the region, such as the Weller Ditch Company, constructed ditches throughout the area to improve irrigation. In the following decade, artesian wells and multiple reservoirs were constructed in the County to further supplement water supply (*An Illustrated History: San Joaquin County, California* 1890: 118). These methods proved successful until the 20th century when agricultural production increased exponentially in the region. The construction of the Central Valley Project and the State Water Project, from the 1930s through the 1950s, also provided the County with a larger water supply (Water Education Foundation 2023). Both projects consist of a vast system of dams, reservoirs, canals, hydroelectric plants, and other facilities that work to deliver water to southern California.

Today, the County and the City continue to rely on water-related infrastructure and facilities provided by these massive projects, as well as smaller, regionally-focused operations like SEWD.

Stockton East Water District

Prior to the SEWD, the City relied on the Stockton Water Works Company (Company) for its water supply, which first organized in 1859. During this time, the City's water source came from three artesian wells and 60 common wells. By the latter half of the 19th century, citizens used approximately 1,500,000 gallons of water per day during the summer months (*An Illustrated History: San Joaquin County, California* 1890: 149). In 1890, the Company was sold to the Stockton Water Company and, again in 1895, to the Blue Lake Water Company. By 1908, the Pacific Gas and Electric company absorbed the Company. California Water Service Company then purchased the Company in 1927. The California Water Services and the City (including the SEWD) currently supply water to the surrounding area (Pierce 2018). The SEWD formed in 1948 under the 1931 Water Conservation Act of California. The SEWD was originally known as the Stockton and East San Joaquin Water Conservation District before becoming the SEWD.

In 1964, the SEWD constructed the New Hogan Dam and Reservoir to create an additional water supply for the City. The New Hogan Reservoir reinforces the SEWD water supply in addition to its available groundwater (SEWD 2023). Prior to 1962, the SEWD obtained its money through property taxes. However, the governor of California signed a bill in 1963 that allowed the SEWD to obtain groundwater use fees and surface water charges. Throughout the 1960s, the SEWD registered wells within the District and constructed check dams along the Calaveras River, and Mormon and Mosher Sloughs which helped to control water supply (SEWD 2023). By 1971, the SEWD's boundary expanded to include the entirety of the Stockton urban area. In 1977, the SEWD constructed the Dr. Joe Waidhofer drinking water treatment plant which produced 30 million gallons of water per day. In the 1990s, the SEWD began to obtain water from the Stanislaus River to support water from the Calaveras River.

The SEWD currently consists of 143,000 acres and supplies treated surface water to the California Water Service Company, the City of Stockton, and San Joaquin County (SEWD 2023).

This page is intentionally left blank.

Chapter 4. Methodology

4.1 Records Search

GEI archaeologist Amy Wolpert, MA, requested a records search of the APE and a surrounding 0.5-mile search area from the Central California Information Center (CCIC) of the California Historical Resources Information System, located in Turlock, California. The CCIC responded on September 13, 2023 (Records Search File No.: 12658L).

The records search consisted of electronic queries of CCIC's Geographic Information System (GIS) containing reported resources and previous investigations, organized by U.S. Geological Survey (USGS) 7.5-minute quadrangle maps.

The records search included the following sources:

- NRHP-listed properties (NPS 1996) and updates
- California Inventory of Historic Resources (State of California 1976 and updates)
- California Points of Historical Interest (State of California 1992 and updates)
- Historical maps
- Directory of Properties in the Historic Resources Inventory (State of California 2006)
- Historic Spots in California (Hoover et al. 1966 and 1990)

The CCIC records search did not identify any previously reported resources or studies within the APE. The records search did identify 10 previously identified resources (and two "informal" resources) and 13 previously conducted studies within the search radius but outside the APE. These are summarized below in **Tables 4-1** and **4-2**.

Table 4-1. Previously Recorded Cultural Resources within 0.5-Miles of the APE

Resource No.	Trinomial	Description	Age	Notes
P-39-000002	CA-SJO-000250H	Railroad, structure	Historic	Southern Pacific Railroad
P-39-004955	-	Structure	Historic	Schoolhouse
P-39-005320	-	Structure	Historic	Levee
P-39-005350	CA-SJO-000369H	Site	Historic	Trash Scatter/Dump
P-39-005351	CA-SJO-00370H	Site	Historic	Trash Scatter/Dump
P-39-005352	-	Isolate	Precontact	Basalt flake/core
P-39-005353	-	Isolate	Precontact	Green flake
P-39-005354	-	Isolate	Historic	Bottle stopper
P-39-005358	-	Isolate	Historic	Bottle base fragment

Resource No.	Trinomial	Description	Age	Notes
P-39-005359	-	Isolate	Historic	Ceramic Insulator

Table 4-2. Previous Studies within 0.5Miles of the APE

Report No.	Year	Author	Title	Affiliation
SJ-00720	1984	Biorn, M.C.	*Archaeological Survey Report for the Proposed Railroad Relocation Project on 10-SJ-99 P.M. 18.9 (E.A. 335910)*	California Department of Transportation
SJ-02824	1995	Busby, C.I., S.A. Guedon, and M.E. Tannam	*Cultural Resources Assessment, San Joaquin Area Flood Control Restoration Plan, San Joaquin County, California*	Basin Research Associates, Inc. for EIP Associates
SJ-2824B	1996	Busby, C.I., S.A. Guedon, and M.E. Tannam	*Cultural Resources Addendum, San Joaquin Area Flood Control Restoration Plan, San Joaquin County, California*	Basin Research Associates, Inc. for EIP Associates
SJ-03131	1997	Busby, C.I., S.A. Guedon, and M.E. Tannam	Cultural Resources Assessment: Bear Creek, South Paddy Creek, Stockton Diverting Canal, Mormon Slough and Potter Creek A, San Joaquin Area Flood Control Restoration Plan, San Joaquin County, Final Report	Basin Research Associates, Inc. for EIP Associates
SJ-04831	2001	Werner, R.H.	Letter Report – Cultural Resources Investigation: Stockton East Water District Parcels, East of Stockton, San Joaquin County, California	ASI Archaeology and Cultural Resources Management
SJ-05193	2003	Gerry, R.A.	Letter Report Regarding: East Stockton Storm Drain Improvements, Cultural Resources Assessment	Peak and Associates
SJ-05497	2004	Environmental Science Associates	South Stockton Aqueduct Project, Cultural Resources Inventory Report	Environmental Science Associates
SJ-06507	2007	URS Corporation	Cultural Resources Report for Geotechnical Evaluations of the San Joaquin Area Flood Control Agency	URS Corporation
SJ-06723	2008	URS Corporation	Cultural Resources Report for Geotechnical Evaluations of the San Joaquin Ara Flood Control Agency Project Levees	URS Corporation
SJ-06724	2008	URS Corporation	Technical Report, Final: Cultural Resources Baseline Literature Review forth Urban Levee Project	URS Corporation
SJ-06996	2005	Shapiro, W.	Archaeological Information for the Farmington Groundwater Report	Pacific Legacy, Inc.
SJ-07073	2009	Harrington, L.	An Archaeological Evaluation of the Department of Water Resources Geotechnical Levee Investigation Stockton Diverting Canal 6.7 Mile Liner Survey Stockton, California	Parus Consulting

Report No.	Year	Author	Title	Affiliation
SJ-08978	2017	Fernandez, T., Gleaton, R., and Weatherbee, K.	Cultural Resources Inventory Report for the Phase 1 – Groundwater Recharge Project, Stockton, California	InContext
SJ-09183	2011	Werner, R.H.	Letter Report: Cultural Resources Investigation…Construction of 10MG Clearwell for Stockton East Water District	ASI Archaeology and Cultural Resource Management

4.2 Archival Research

GEI's architectural historians conducted primary and secondary research, including the examination of relevant documents and reports, as well as historic aerials, maps, and the Office of Historic Preservation (OHP) Built Environment Resource Directory (BERD). Additional research was conducted at the GEI cultural library. This research was used to identify important trends in history, significant persons, and engineering information, and to develop the historic context.

4.3 Native American Consultation and Coordination

GEI Archaeologist Amy Wolpert, MA, sent a request to the Native American Heritage Commission (NAHC) for a search of their Sacred Land File (SLF). A response was received on October 18, 2023, which stated that the result of the search was positive. A positive result does not necessarily indicate that a resource with Tribal significance is located within the APE, but one is located in the same USGS Section as the APE.

A copy of the NAHC response is presented in **Appendix A**.

4.4 Historical Societies Correspondence

On October 24, 2023, GEI's architectural historian sent a letter to the San Joaquin County Historical Society. As of the date of this report, no comments have been received. A copy of the correspondence is in **Appendix B**.

4.5 Survey Methods

On September 15, 2023, GEI archaeologist Jesse Martinez, RPA, conducted a pedestrian survey of the APE implementing survey transects spaced no further than 15 meters (49 feet) apart. A printed map as well as an electronic (kmz) delineation of the APE was carried to ensure adequate survey coverage. Pin flags were carried to mark any cultural resources that might be encountered and an Arrow 100 GNSS receiver capable of submeter recording of locations.

4.6 Survey Results

On September 15, 2023, GEI architectural historian Lena Philliber, conducted a field inventory of the APE. Built environment resources 45 years old or older were recorded through written notes and photography. Inventoried resources included one resource by the name of Well 74-01.

No cultural resources were identified during the archaeological pedestrian survey. Conditions within the APE consisted of a patchwork of clear areas with good visibility and areas of tall grasses and weeds but with fair visibility. The surface consisted of sandy soils and an approximately 2-meter-tall mound of deposited dredged material northwest and southeast of Well 74-01.

This page is intentionally left blank.

Chapter 5. Findings

5.1 Archaeological Resources

No archeological cultural resources were identified either during the records search or the pedestrian survey.

5.2 Built Environment Resources

One historic-era built environment resource was identified during the field survey: Well 74-01. A modern-era well house encloses the well. In addition, a modern-era transmission line extends along the southwest side of the well property. The well house structure and the transmission line do not appear to meet the exceptional significance criteria for recently constructed properties. Therefore, they are not discussed further. Well 74-01 is discussed below. A DPR 523 form for the well is in **Appendix C**.

5.2.1 Well 74-01

Description

Well 74-01 is housed within a one-story brick well house with a shed roof. The electrical control systems are located within the well house. The south (front) elevation of the well house features two full-height vents and no windows. The west elevation also includes a similar vent. A steel paneled door is present on the north elevation.

Access to Well 74-01 within the well house was limited. On the structure's west elevation, a metal discharge pipe descends into the ground to connect with underground piping. A separate chlorine treatment room is present on the east side of the well house and was previously used to disinfect the well water (the disinfection equipment is no longer in use).

A chain-link fence topped with security barbed wire encloses the water treatment facility and a gate provides access on the south side of the site. A subsurface meter vault and transformer are also on the site. Shrubs and other vegetation are evident throughout the surrounding area. A dirt road travels along the southwest perimeter of the property.

Evaluation

California Water Services (CWS) constructed Well 74-01 during late summer 1969 (C&N Pump and Well Co 1969). The underground pipes were likely installed during this period. The well house appears on historic aerials as early as 1970, and is likely the original well house. During this time, there appears to have been a secondary structure adjacent to the well house, but by 1982, that structure was removed (UC Santa Barbara 1970; NETRonline 1982). CWS established the water

treatment process at the site, and it was discontinued when SEWD acquired Well 74-01 from CWS in the late 1970s. The adjacent dirt road dates to at least 1970 (UC Santa Barbara 1970).

Well 74-01 and the associated underground pipes do not appear to meet the criteria for the NRHP. CWS constructed the well during 1969 as part of the efforts to provide/store water to customers in the surrounding area. As a District well, the resource (including the underground pipes) is used in conjunction with other water-related features to facilitate the flow of water throughout the District. While Well 74-01 has served the area for over 50 years, it has not directly impacted the region's overall development or is known to be associated with events or trends important in history and thus does not appear to meet Criterion A. The well structure and underground pipes are also not known to be associated with individuals who played an important role in history at the local, state, or national level and does not appear to meet NRHP Criterion B. As an engineered feature, Well 74-01 and the underground pipes are not an important example of its type, period, or method of construction nor does the system display distinctive characteristics. It is a ubiquitous resource type and research did not reveal that the structure was designed by a master engineer. For these reasons, this structure does not appear to meet NRHP Criterion C. The well and associated underground pipes are also not the source of important information as required under NRHP Criterion D and does not appear to meet this criterion. In summary, the resource lacks historical significance. Therefore, Well 74-01 (and associated underground pipes) does not appear to meet NRHP eligibility.

The adjacent dirt road does not appear to be directly associated with the well property. It has historically served as a rural access road for the surrounding agricultural area (Criterion A). It has no known association with important events or individuals (Criterion B). It is also a basic utilitarian feature that is not the sole source of important information (Criteria C and D). In summary, it does not appear to meet NRHP criteria.

This page is intentionally left blank.

Chapter 6. Management Recommendations

No further investigation or action is recommended given the results of the current investigation. If the Project were to change, for example if the Project area were to expand, then further investigation might be necessary.

It is possible, although unlikely, that archaeological resources will be encountered during the Project. In that event, the following recommendations are presented.

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 Reclamation and the District notified. In the event of an inadvertent discovery, Section 106 review would be necessary to make a determination on a properties' eligibility for listing in the NRHP 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 Reclamation and the District prior to implementation. Ground-disturbing activities should not resume near the find until treatment, if any is recommended, the find is complete, or the qualified archaeologist determines the find is not significant. The qualified archaeologist may determine a safe distance for ground-disturbing activities. Subsurface prehistoric resources may take the form of stone tools and tool fragments, rock concentrations, burned and/or unburned shell or bone, and/or darkened sediments containing some or all the above-mentioned constituents. Historic-era deposits may include fragments of glass, ceramic, and metal objects, milled and split lumber, and structure features remain, such as building foundations and dumps.

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

Once notified by the 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]).

6.1 Conclusion

One cultural resource is in the APE. It does not appear to meet NRHP criteria. Therefore, there are no Historic Properties in the APE and this report recommends a finding of ***no historic properties effected*** as provided in 36 CFR Part 800.4(d)(1).

Chapter 7. References

An Illustrated History: San Joaquin County, California. 1890. No author. The Lewis Publishing Company. Chicago, IL. Available at: https://tile.loc.gov/storage-services/public/gdcmassbookdig/illustratedhist00chic/illustratedhist00chic.pdf. Accessed October 4, 2023.

C&N Pump and Well Company. 1969. The Resources Agency of California: Water Well Drillers Report: Well 1N/7E-4F1. Prepared by C&N Pump and Well Company, Santa Clara, CA. October 14, 1969.

California State Association of Counties. 2023. "San Joaquin County." Available at: https://www.counties.org/county-profile/san-joaquin-county. Accessed October 4, 2023.

City of Stockton. 2023. "History: A Look into Stockton's Past." Available at: http://www.stocktongov.com/discover/history/hist.html. Accessed October 17, 2023.

Cook, E. 1955. "The Aboriginal Population of San Joaquin Valley, California." *Anthropological Papers* 16 (2). University of California Press, Berkeley and Los Angeles, CA.

Fredrickson, D. A. 1974. "Cultural Diversity in Early Central California: A View from the North Coast Ranges." *Journal of California Anthropology* 1(1):41–53.

_____. 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. 2 Berkeley: University of California Press.

Gayton, A.H. 1948. "Northern Foothill Yokuts and Western Mono." *Anthropological Records* 10(1).

Moratto, M. J. 1984. *California Archaeology*. New York, Academic Press.

NETRonline. 1957. "Historic Aerials." Photograph of SEWD from 1957. Available at: https://historicaerials.com/viewer. Accessed October 17, 2023.

_____. 1982.

Pierce, Morris A. 2018. "Documentary History of American Waterworks: Stockton, California." Available at: http://www.waterworkshistory.us/CA/Stockton/. Accessed October 17, 2023.

Rosenthal et al. 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.

San Joaquin County Historical Museum. 2023. "We Welcome You: To Take a Step Back in Time With us." Available at: https://sanjoaquinhistory.org/. Accessed October 4, 2023.

Stockton East Water District (SEWD). 2023. "SEWD History." On file with GEI Consultants, Inc.

Stockton. 2023. "Stockton's History." Available at: https://www.visitstockton.org/about-us/stockton-history/." Accessed October 17, 2023.

UC Santa Barbara Library. 2023. Aerial Photography Collection. 6767 E Main Street Stockton, CA. Available at: https://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed October 17, 2023.

United States Census Bureau (USCB). 2023. "QuickFacts: Garden Acres CDP, California." Available at: https://www.census.gov/quickfacts/fact/table/gardenacrescdpcalifornia/PST045222. Accessed October 20, 2023.

United States Geological Survey (USGS). 1914. Burnham, California.

_____. 1952. Stockton East, California.

Wallace, W.J. 1978. *Northern Valley Yokuts. In Handbook of North American Indians, Vol. 8.* edited by Robert F. Heizer, 462-470. Washington, D.C.: Smithsonian Institution.

Water Education Foundation. 2023. "San Joaquin Valley." Available at: https://www.watereducation.org/aquapedia/san-joaquin-valley#:~:text=Irrigation%20began%20in%20the%20San,population%20surged%2C%20water%20use%20intensified. Accessed October 24, 2023.

This page is intentionally left blank.

Appendix A. Native American Correspondence

STATE OF CALIFORNIA Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710

October 18, 2023

Amy Wolpert
GEI Consultants, Inc.

Via Email to: awolpert@geiconsultants.com

Re: Stockton East WD (2301364.1.11) Project, San Joaquin County

Dear Ms. Wolpert:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the tribes on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

Attachment

Appendix B. Historical Societies Correspondence

GEI Consultants

Consulting Engineers and Scientists

October 24, 2023

San Joaquin County Historical Society
11793 Micke Grove Road
Lodi, California 95240

RE: Aquifer Storage and Recovery Well Study and Design Project

To Whom It May Concern,

The Stockton East Water District (District) is proposing the Aquifer Storage and Recovery (ASR) Well Study and Design Project (Project). The Project would install a new ASR well at the District's Treatment Facility to replace the existing Well 74-01. To support the new ASR well, two new pipelines would be installed underground for the recharge and recovery water. Implementation of this Project would allow the District to store excess surface water by recharging the aquifer during periods of high river flow or above-average water years. The Project is located on approximately 5.6 acres in the city of Stockton, San Joaquin County, California

In compliance with Section 106 of the National Preservation Act, GEI Consultants, Inc. is conducting a cultural resources study in the project area. All interested historical organizations are being consulted to determine if any historic or cultural resources may be affected by the proposed project. Your efforts in this process provide invaluable information for the proper identification and treatment of such resources.

If you have any information or questions regarding resources in the proposed project area, please contact me at 707.357.3497 or lphilliber@geiconsultants.com. All comments and letters received will be included in the report generated by this study.

Sincerely,

Lena Philliber

Lena Philliber,
Architectural Historian

Enclosure

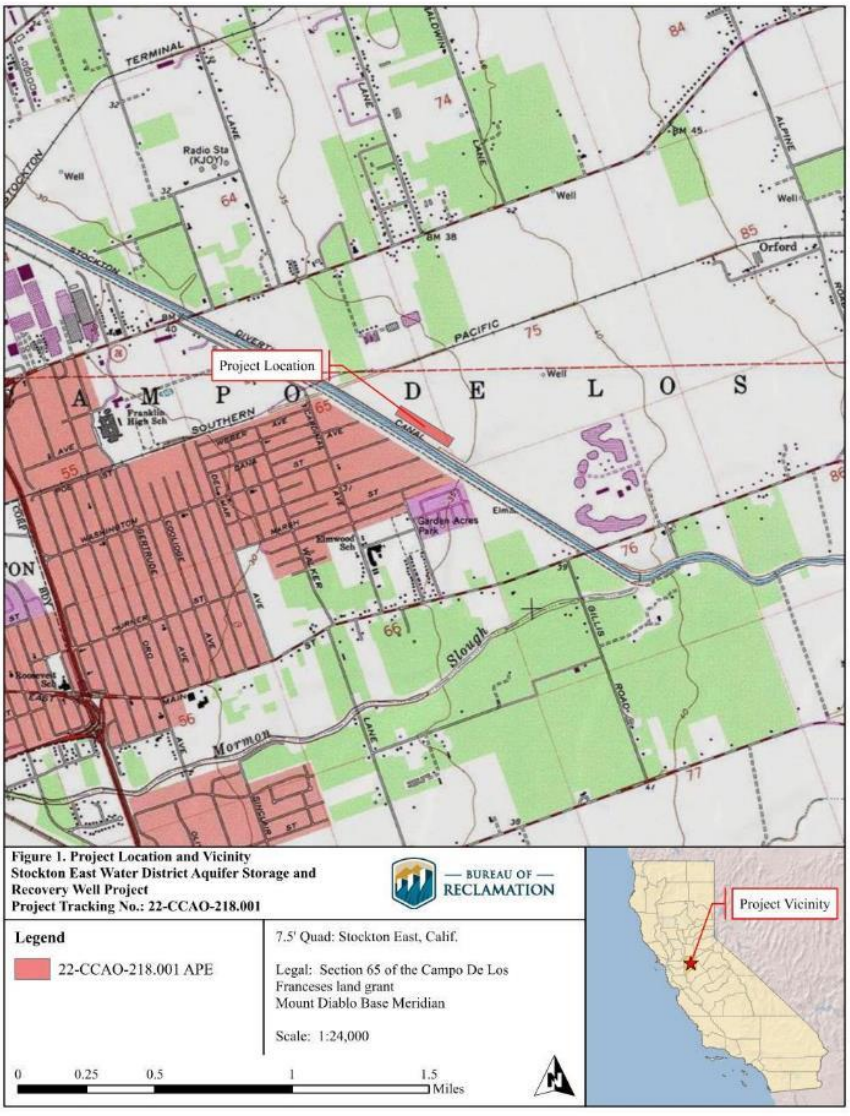


Figure 1-1. Project Location and Overview

Appendix C. California Department of Parks and Recreation (DPR) 523 Forms

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

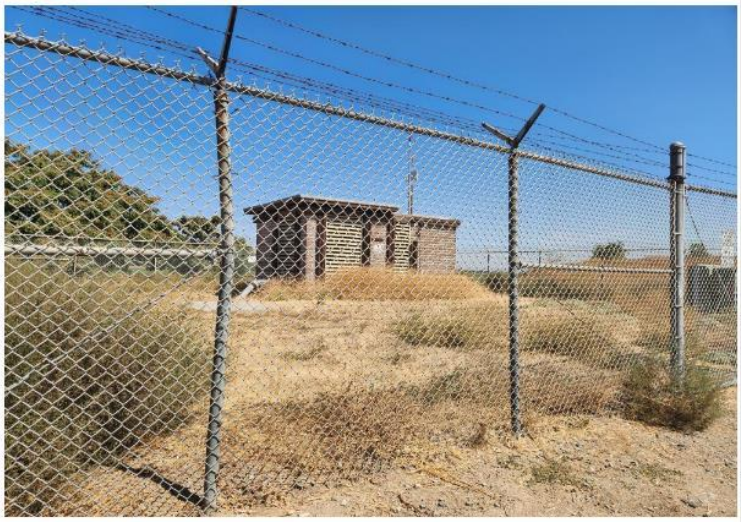
Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

Page 1 **of** 3 ***Resource Name or #** (Assigned by recorder) Well 74-01

P1. Other Identifier: _____
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** San Joaquin
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Stockton East **Date** 2021 **T** 1N ; **R** 7E ; ¼ **of Sec** unsectioned ; _____ **B.M.**
c. Address 6767 E Main Street City Stockton Zip 95215
d. UTM: (give more than one for large and/or linear resources) Zone _____; _____mE/ _____mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
Well 74-01 is housed within a one-story brick well house with a shed roof. The electrical control systems are located within the well house. The south (front) elevation of the well house features two full-height vents and no windows. The west elevation also includes a similar vent. A steel paneled door is present on the north elevation (see **Photograph 1**). Access to Well 74-01 within the well house was limited. On the structure's west elevation, a metal discharge pipe descends into the ground to connect with underground piping (see **Photograph 2** and **Photograph 3**). A chlorine treatment room is also within the well house that was previously used to treat well water (the treatment room is no longer in use). A chain-link fence topped with security barbed wire encloses the water treatment facility and a gate provides access on the south side of the site. A subsurface meter vault and transformer are also at the site. Shrubs and other vegetation are evident throughout the surrounding area.

***P3b. Resource Attributes:** (List attributes and codes) AH5 and HP11. Well
***P4. Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)



P5b. Description of Photo: (View, date, accession #) Photograph 1. Well 74-01 facing east.. September 2023

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
Constructed 1969 (UC Santa Barbara 1970).

***P7. Owner and Address:**
Stockton East Water District
6767 E Main Street
Stockton, CA 95215

***P8. Recorded by:** (Name, affiliation, address)
Lena Philliber
GEI Consultants, Inc.
2868 Prospect Park Drive
Rancho Cordova, CA 95670

***P9. Date Recorded:**
September 15, 2023.

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") GEI Consultants, Inc., 2023. *Cultural Resources Inventory and Evaluation Report for the Aquifer Storage and Recovery Well Study and Design Project*. Prepared for the Stockton East Water District.
***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

Primary # _____
HRI # _____

Page 2 **of** 3

***NRHP Status Code** 6Z
***Resource Name or #** (Assigned by recorder) Well 74-01

B1. Historic Name: _____
B2. Common Name: Well 74-01
B3. Original Use: Water supply and storage B4. Present Use: Water supply and storage
***B5. Architectural Style:** N/A
***B6. Construction History:** (Construction date, alteration, and date of alterations) Constructed 1969
***B7. Moved?** ☒ **No** ☐ **Yes** ☐ **Unknown** **Date:** _____ **Original Location:** _____
***B8. Related Features:** _____
B9. Architect: Unknown b. Builder: C&N Pump and Well Company
***B10. Significance: Theme** N/A **Area** Stockton
Period of Significance N/A **Property Type** Well **Applicable Criteria** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

California Water Services (CWS) constructed Well 74-01 during late summer 1969 (C&N Pump and Well Co 1969). The well house appears on historic aerials as early as 1970, and is likely the original well house. During this time, there appears to have been a secondary structure adjacent to the well house, but by 1982, that structure was removed (UC Santa Barbara 1970; NETRonline 1982). Cal Water established the water treatment process at the site, and it was discontinued when SEWD acquired Well 74-01 from Cal Water.

Well 74-01 does not appear to meet the criteria for the NRHP. CWS constructed the well during 1969 as part of the efforts to provide/store water to customers in the surrounding area. As a District well, the resource is used in conjunction with other water-related features to facilitate the flow of water throughout the District. While Well 74-01 has served the area for over 50 years, it has not directly impacted the region's overall development or is known to be associated with events or trends important in history and thus does not appear to meet Criterion A. The structure is also not known to be associated with individuals who played an important role in history at the local, state, or national level and does not appear to meet NRHP Criterion B. As an engineered feature, Well 74-01 is not an important example of its type, period, or method of construction nor does it display distinctive characteristics. It is a ubiquitous resource type and research did not reveal that the structure was designed by a master engineer. For these reasons, this structure does not appear to meet NRHP Criterion C. The well is also not the source of important information as required under NRHP Criterion D and does not appear to meet this criterion. In summary, the resource lacks historical significance. Therefore, Well 74-01 does not appear to meet NRHP eligibility

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**

C&N Pump and Well Company. 1969. The Resources Agency of California: Water Well Drillers Report: Well 1N/7E-4F1. Prepared by C&N Pump and Well Company, Santa Clara, CA. October 14, 1969.

NETRonline. 1982. "Historic Aerials." Photograph of SEWD from 1982. Available at: https://historicaerials.com/viewer. Accessed October 17, 2023.

UC Santa Barbara Library. 2023. Aerial Photography Collection. 6767 E Main Street Stockton, CA.. Available at: https://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed October 17, 2023.

B13. Remarks:

***B14. Evaluator:** Lena Philliber, GEI Consultants, Inc.

***Date of Evaluation:** October 17, 2023.

(This space reserved for official comments.)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
HRI # _____
Trinomial _____

Page 3 **of** 3 ***Resource Name or #** (Assigned by recorder) Well 74-01
***Recorded by** Lena Philliber, GEI Consultants, Inc. ***Date** September 15, 2023 ☒ Continuation ☐ Update

Photographs (Continued)

Photograph 2. Well house facing south.

Photograph 3. Pipe leading from well house facing south.