

INITIAL STUDY

FOR THE

LAMONT PUBLIC UTILITIES DISTRICT

WATER SUPPLY IMPROVEMENT DISTRICT PROJECT

Prepared for:
Lamont Public Utilities District
8624 Segrue Road
Lamont, California 92341

Prepared by:
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LIST OF ABBREVIATIONS AND ACROYNMS

AB	Assembly Bill
amsl	above mean sea level
APE	Area of Potential Effect
APN	Assessor Parcel Number
ARB	Air Resources Board
AQMD	Air Quality Management District
BACMs	best available control measures
Bgs	below ground surface
BMPs	best management practices
CARB	California Air Resources Board
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CDFW	California Department of Fish and Wildlife
CEQA	California Air Quality Act
CNEL	Community Noise Equivalent Level
dB	decibel
dBA	A-weighted decibel
DDW	Division of Drinking Water
EAPOA	El Adobe Property Owners Association
EO	Executive Orders
EPA	Environmental Protection Agency

FEMA	Federal Emergency Management Agency
FIRM	Federal Insurance Rate Map
FTA	Federal Transit Association
GHG	Greenhouse Gas
HSC	Health and Safety Code
Leq	time average sound level
LPUD	Lamont Public Utilities District
MBTA	Migratory Bird Treaty Act
MCLs	Maximum Contaminant Levels
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
PER	Preliminary Engineering Report System Evaluation
PUD	Public Utilities District
ROW	rights-of-way
SCADA	supervisory control and data acquisition
SCE	Southern California Edison
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
VdB	velocity in decibels
VMT	vehicle miles traveled
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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ENVIRONMENTAL CHECKLIST FORM

1. Project Title: Water Supply Improvement Project
2. Lead Agency Name: Lamont Public Utilities District
Address: 8624 Segrue Road
Lamont, CA 92341
3. Contact Person: Scott Taylor, General Manager
Phone Number: (661) 845-1213
E-Mail Address: staylor@LPUD.org
4. Project Location: The Lamont Public Utilities District (LPUD) is located in the southern San Joaquin Valley, about five miles southeast of downtown Bakersfield. Refer to Figure 1. The proposed project consists of four replacement well locations and the inclusion of the El Adobe Property Owners Association (EAPOA) area within the Lamont PUD service area, including extension of a new water line to the EAPOA area.

Well Sites: Figure 2 shows the locations of the four well sites.

Well 13 Replacement Site: An approximate 1.6-acre site located at the northwest corner of San Diego Street and Hall Road, APN 186-080-05.

Well 11 Replacement Site: An approximate 1.0-acre site located at the northeast corner of APN 187-030-04 also being the south side of DiGiorgio Road approximately a quarter-mile west of Weedpatch Highway. The parcel is actually about 40-acres in size, but the land owner has agreed to sell the 1.0 acre well site parcel at the location shown on Figure 2.

Well 5 Replacement Site: An approximate 0.27-acre site located at the southeast corner of Maxey Drive and Weedpatch Highway, APN 188-290-32. The small parcel is deemed adequate for a new well and potential treatment system because it is adjacent to the existing Well No. 5 site which can be used to support the new well facilities.

Well 12 Replacement Site: An approximate 1.0-acre site located east of Habecker Road and north of the extension of Segrue Road, at the southeast corner of APN 188-250-30. The parcel is actually about 7.1-acres in size, but the land owner has agreed to sell the 1.0 acre well site parcel at the location shown in Figure 2.

A more detailed discussion of each site is provided in Appendix 1 of this Initial Study.

In addition to the well replacement project, the LPUD is considering the consolidation of the El Adobe Property Owners Association (EAPOA) as part of the PUD for water potable service. The EAPOA

is a small community of approximately 250 residents located approximately two miles west of Lamont. To serve this area a new 10-inch water transmission line is proposed to be installed along Di Giorgio Road. This proposed connection is shown in Figure 3.

At the intersection of Di Giorgio Road and Alderwood Street an 8-inch diameter water distribution line will connect into the 10-inch transmission line and a new looped distribution line will be installed within the residential area. The proposed EAPOA community water distribution line is shown on Figure 4.

5. Project Sponsor's Name and Address: Lamont Public Utilities District
8624 Segrue Road
Lamont, CA 92341
6. General Plan Designation: Not Applicable
7. Zoning Classification: Not Applicable
8. Project Description:

Introduction

The Lamont PUD discovered that several of its existing water production sources (groundwater wells) are pumping groundwater with concentrations of arsenic and 1, 2, 3 TCP that currently exceed Maximum Contaminant Levels (MCLs) for drinking water. Two of these wells have had well head water treatment systems installed, but the LPUD is seeking to replace four of the contaminated wells (Wells 5, 11, 12, and 13). The State Water Resource Control Board, Division of Drinking Water (DDW), has issued three compliance orders over the years and the LPUD retained Dee Jaspar & Associates, Consulting Civil Engineers, to evaluate alternative solutions. This resulted in a 2019 publication titled "Preliminary Engineering Report System Evaluation" (PER). A copy of the PER is provided as Appendix 2. After determining that intermediate strata in the underlying aquifer (between 480 feet and 720 feet in depth below ground surface) should yield water quality that is not or minimally contaminated, the PER recommended replacing Wells 5, 11, 12, and 13. Further evaluation by Dee Jaspar & Associates has identified replacement sites for each of the four wells. These locations are shown on Figure 2. During the investigations, the LPUD agreed to consider assuming responsibility (consolidating the EAPOA service area into the Lamont PUD) for supplying potable water to approximately 81 EAPOA single family residences within the EAPOA boundary. The PUD is seeking assistance from the State DDW to fund the implementation recommendations of the PER as summarized above.

Project Description

The project being considered at this time is the drilling, testing, and equipping of four new wells at the locations identified above, and the extension of a water line to the EAPOA and installation of a loop distribution system within the EAPOA property boundary as shown on Figure 3 and 4. The LPUD will drill the test wells using a casing hammer drilling method at two locations – Well 11 and Well 12 replacement sites. The test well will be drilled to an approximate depth of 900 feet with systematic tests to determine an actual production zone of groundwater without substantial contamination. Assuming adequate water quality meeting drinking water standards, a production well will be constructed with continued water quality monitoring. Once drilled, each well will be

equipped with vertical turbine pumps, motors, discharge piping, electrical and controls, and connections installed to the existing distribution system. If needed, well head treatment may be added to one or more of the wells. The LPUD will install a supervisory control and data acquisition (SCADA) system for remote monitoring and control of the District facilities. Figure 5 shows a conceptual well site replacement layout

To supply the EAPOA project area, a 10-inch diameter water transmission line will be installed within the existing disturbed road right-of-way of Di Giorgio Road. This will encompass installing approximately 11,000 feet of pipeline in this alignment. At the intersection of Di Giorgio Road and Alderwood Street an 8-inch diameter water distribution line will connect into the 10-inch transmission line and a new looped distribution line will be installed within the residential area. This new water line will be approximately 20,000 feet in length. The proposed EAPOA community water distribution line is shown on Figure 4. In conjunction with replacement of the existing EAPOA water system the following actions will be completed: properly abandon EAPOA Wells 1 and 2; demolish the existing EAPOA 25,000- and 44,000-gallon water storage tanks (steel storage tanks); demolish and remove existing booster pump stations at Well 1 and 2; and install water meters at the existing 81 water connections.

It is assumed there will be no increase in water demand within Lamont and the EAPOA project area. The LPUD will have to pump more water (estimated to be 205 gallons per minute (gpm) during peak hour), but from an aquifer-wide standpoint this increase in water production will be offset by closure/abandonment of the two EAPOA wells currently used to supply the EAPOA residents with potable water.

Construction Scenario

All of the proposed work locations occur on relatively flat land, in most cases highly disturbed locations. The well drilling equipment will be staged at each proposed well location. Before well drilling commences, a well drilling permit will be obtained from the County of Kern. It is anticipated that one test well will be drilled at a time. Staging for each well will require two to three days. It is assumed that a working crew of 2-4 persons will conduct well drilling at each well location. Well drilling will commence and based on boring logs from other District wells, the test wells should be completed within 30 working days, including sampling the water from various depths. Once the well drilling and testing is completed, a decision will be made by the LPUD to drill a production well or not. A production well drilling rig will then be brought onto the property and a production well will be drilled. This will require about 40 working days of continuous drilling to complete. Once a production well has been completed, the well will be equipped and the pipeline connecting to the LPUD water distribution system will be installed. Any well head treatment units will be brought to the new production well site and installed at the well head. Before initiating actual production, a drinking water permit amendment will be obtained from the State DDW to begin delivery of groundwater from the well to the LPUD's potable water distribution system.

Assuming the LPUD authorized consolidation of the EAPOA into its service area is approved, the pipelines will be installed. This will include excavating pipeline trenches. For a 10-inch line this entails a trench about 3 feet in width with depth ranging from 5 to 10 feet in depth depending on topography and overlying uses. Assuming 200 feet of line installation per day for a single pipeline installation crew, the 11,000 feet of 10-inch pipeline installation will require about 55 working days. The 8-inch pipeline within the EAPOA community will be installed concurrently by a separate construction crew. Dimensions of disturbance will be about the same as for the 10-inch pipeline, but the depth of the trench will range from 5 to 8 feet. The pipeline crew will each require about six employees to complete about 200 feet of pipeline installation per day. A total of 20,000 feet

of 8-inch pipeline will be installed and this will require an estimated 100 working days to complete installation.

The two EAPOA water tanks will require about 10 working days to demolish. The booster pumps will be removed over a period of a few days. Installation of up to 81 new water meters will require about 10 to 15 days to accomplish.

9. Other agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

The amount of area to be disturbed by the whole project will be greater than one acre; therefore, the LPUD will be required to file a Notice of Intent (NOI) for a General Construction permit to comply with the National Pollutant Discharge Elimination System (NPDES) requirements. The NOI is filed with the State Water Resources Control Board and enforced by the Regional Water Quality Control Board. A Stormwater Pollution Prevention Plan (SWPPP) must be implemented in conjunction with construction activities.

As noted above, the LPUD will be required to obtain permits from the following:

- a. Well Drilling Permit – County of Kern
- b. Well Destruction Permit – County of Kern
- c. Drinking Water Permit Amendment - State Division of Drinking Water to connect the new, finished wells to the potable water distribution system.

No other agency approvals are known at this time.

10. Have California Native American tribes traditionally and cultural affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun? No consultation is required because no tribe has contacted the Lamont PUD to request consultation.

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology / Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards & Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology & Water Quality | <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input checked="" type="checkbox"/> Utilities / Service Systems | <input checked="" type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

<input type="checkbox"/>	The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	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.
<input type="checkbox"/>	The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	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.
<input type="checkbox"/>	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.

Tom Dodson & Associates
Prepared by

Scott Taylor
Lead Agency (signature)

February 2022
Date

March 22, 2022
Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
I. AESTHETICS: Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning or other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- la. *Less Than Significant Impact* – The proposed project consists of installing four new wells, pipelines, manholes and water meters, and demolition and removal of two old steel water tanks located in the El Adobe Property Owners Association (EAPOA) neighborhood. Short-term construction activities will result in limited above-ground construction activities, but neither these short-term nor long-term changes in the LPUD project area will adversely impact scenic vistas. There are scenic vistas in the Lamont community to the northeast, east, southeast and south towards the southern Sierra Nevada Mountains, the Tehachapi Mountains and the San Emigdio Mountains. All of the proposed facilities will be installed at ground level or worst case in one story structures that will become part of the already disturbed by foreground views of adjacent suburban/urban development in Lamont and the EAPOA neighborhood. The fact that the new facilities are being installed are at ground level at worst-case one-story structures means they cannot interfere with any of scenic vistas. No mitigation is required, and no significant adverse impact is forecast to scenic vistas from implementing the proposed LPUD project.
- lb. *Less Than Significant Impact* – There are no scenic highways located within the community of Lamont or along Di Giorgio Road to the west of Lamont into the EAPOA neighborhood. All proposed pipeline facilities will be installed within existing public rights-of-way (ROW) at ground level. All four well sites are located within urban/suburban areas or adjacent to such areas. The removal of the old steel water tanks will remove existing structures that do currently create visual barriers in the EAPOA neighborhood. Finally, the new water meters will be installed at ground level where they cannot alter any scenic resources. These project locations do not contain any scenic resources that could be adversely impacted by installing these facilities. No mitigation is required, and no potential for significant adverse impact is forecast to result from implementing the proposed project.
- lc. *Less Than Significant Impact* – Although not a highly urbanized area, Lamont is more of an urban area than open space or agricultural land. All of the wells are located within or adjacent to developed areas and the pipelines being installed to support the EAPOA will occur within paved roads or public rights-of-way. The proposed project facilities constitute water infrastructure (wells, pipelines, and support facilities) that are independent of local zoning. Implementation of the proposed project will not conflict with either the zoning or scenic quality regulations. No mitigation is required, and no adverse visual impact is forecast to result from implementing the proposed project.

- Id. *Less Than Significant with Mitigation Incorporated* – The implementation of the proposed Project will create new sources of light during the construction and operational phases of the Project. Based on a review of the Aerial Photo in Figure 2, there are light sensitive uses adjacent to most of the infrastructure proposed to be installed as part of the proposed project. Of particular concern is during well drilling, the well rig typically operates 24-hours per day and safety, security and area lighting is required during drilling. Due to light and glare from these construction light sources, the mitigation in measure **AES-1** must be implemented to minimize significant light and glare impacts during well construction. Similar mitigation is not required to support pipeline, pump station and support facility construction (for example, Fire Hydrants) because these construction activities do not require 24-hour construction activities.

Once the pipelines and related facilities are installed, they will not require further lighting during future operations. However, at well and pump station locations, security and safety lighting will be required to operations. Thus, the proposed Project will introduce a new source of light into the project area during operations, but design requirements can limit/restrict the exterior lighting impacts to the project site. To ensure that light does not result in intrusive lighting that can adversely impact land uses adjacent to well and pump station sites, the Project must comply with the local lighting requirements that lighting be restricted to the project site through shielding and directing light downward. To ensure that light or glare, supporting above ground water facilities, does not result in intrusive lighting or glare to existing structures or persons in the project area, the following mitigation measure will be implemented:

AES-1 *Prior to initiating well drilling or approval of the final above ground facilities in close proximity to sensitive light receptors, an analysis of potential exterior lighting to impact the adjacent sensitive light receptors shall be submitted to the Lamont PUD for review and approval. If potential lighting impacts are identified for adjacent sensitive receptors the lighting shall be shielded or other design solutions acceptable to the PUD shall be implemented to eliminate adverse night lighting impacts.*

With the implementation of mitigation measure **AES-1**, the proposed Lamont PUD Water Supply Improvement District Project would have a less than significant potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<p>II. AGRICULTURE AND FORESTRY RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) 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 forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</p>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

Ila. *Less Than Significant Impact* – All pipelines will be installed in public rights-of-way which are considered to be Urban/Built-Up Land. Well sites 5 and 13 are also designated as Urban/Built-Up Land. Well site #4 is identified as being “Rural Residential Land.” However, the Well #11 replacement site is designated Farmland of Statewide Importance. All of these designations are based on the California Department of Conservation Important Farmland Map Finder map for the project area, a copy of which is provided as Figure II-1. According to the project description, the site proposed for the Well 11 Replacement facility consists of a one-acre parcel that will be purchased in the northeast corner of 40-acre parcel of land (APN 187-030-04). Because of the selected location on the 40-acre property, this new well will allow continued farming on the remainder of the property (39 acres). The installation and operation of the new well will not conflict with continued farming operations. Based on this finding, the Lamont PUD does not find that loss of one-acre of Farmland of Statewide Importance is either project specific or cumulatively a significant adverse impact to agricultural land.

The loss of one acre of farmland is considered a *de minimus* change in the agricultural resources in the surrounding area and within Kern County as a whole. Therefore, implementation of the proposed Project and conversion of the proposed well sites to a water supply well will not pose any significant adverse impact to agricultural resources or values. No mitigation is required.

- IIb. *No Impact* – Implementation of the proposed Project will not conflict with continue use of the remainder 39-acre parcel for agricultural production and according to the Kern County Williamson Act Parcels and Non-Renewal map, none of the project sites or alignments are under Williamson Act contract. Please reference the discussion in II(a), above. Based on this information, the proposed Project will not conflict with existing zoning for agricultural use, or a Williamson Act contract. No adverse impacts are anticipated and no mitigation is required.
- IIc. *No Impact* – The project site is not located within forest land, timberland or timberland zoned for Timberland Production. Therefore, the proposed Project will not 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)). No adverse impacts are anticipated and no mitigation is required.
- IId. *No Impact* – The project site is not located within forest land and has no commercial forest trees on any of the property proposed to support the Lamon PUD's Water Supply Improvement Project; therefore, the Project will not result in the loss of forest land or conversion of forest land to non-forest production use. No adverse impacts are anticipated and no mitigation is required.
- IIE. *Less Than Significant Impact* – Please refer to the discussion under issue II(a), above. Although the proposed Project contains a one-acre site the is designated as Farmland of Statewide Importance, the conversion of this small parcel to water supply production was concluded to constitute a less than significant project specific and cumulative impact within the surrounding community. Furthermore, there is no forest land in the vicinity of Lamont that would be impacted by the development of the proposed Project. Therefore, the proposed Project would have a less than significant potential to involve other changes in the existing environment which, due to their location or nature, could result in conversion of significant farmland resources, to non-agricultural use or conversion of forest land to non-forest use.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The following information utilized in this section was obtained from the technical study “Air Quality and GHG Impact Analyses, Lamont Public Utilities District Water Supply Improvement Project, Lamont, California” prepared by Giroux & Associates dated December 7, 2021 and provided as Appendix 3 to this document.

Background

Tables III-1 and III-2 summarize the current air quality standards and the health risks of air pollutants, respectively. Baseline air quality is provided in Table III-3.

San Joaquin Valley Air Basin (SJVAB) includes San Joaquin County, Stanislaus County, Madera County, Fresno County, Kings County, Tulare County, and a portion of Kern County. Lamont is at the southern end of the San Joaquin Valley Air Pollution Control District (SJVAPCD) in South Kern County and is located 9 miles south-southeast of downtown Bakersfield. Lamont is a small, rural community. The community is located at the base of the Tehachapi Mountain range. The mountains surrounding the SJVAB restrict air movement through and out of the basin, and as a result, impede the dispersion of pollutants from the basin.

Lamont is primarily an agricultural community. In addition to being itself a farm community it is surrounded on all sides by agricultural lands where operational pesticide use greatly impacts the city’s air quality. Lamont is also directly downwind from one of the largest oil and gas refineries in Kern County. These factors contribute to the City of Lamont and its residents, experiencing some of the worst PM-2.5 levels in the nation. There is no government agency-sponsored monitor in Lamont for PM-2.5. The closest PM-2.5 monitor is in southwest Bakersfield.

Away from the cooling effects of the Pacific Ocean, the climate of Kern County can be characterized as hot in summer and cold in winter, compared with the coastal basins where the climate is moderated by the adjacent ocean. The SVJAB has an “inland Mediterranean” climate averaging over 260 sunny days per year. The valley floor is characterized by hot summers and mild humid winters. Summer high temperatures often exceed 100°F while the average daily low temperature in the winter is 45°F. Temperatures below freezing are rare. Summer winds in the SJVAB usually originate at the north end of the San Joaquin Valley and flow in a south-southeasterly direction while winter winds originate from the south and flow in a north-northwesterly direction. Winds in the winter months tend to be variable and light; often less than 10 mph. Precipitation in the San Joaquin Valley is strongly influenced by the position of the semi-permanent

subtropical high-pressure zone located off the Pacific Coast. Most precipitation occurs in the winter months, with some occurring in late summer and fall. Average annual rainfall for the entire San Joaquin Valley is 9.25 inches on the valley floor.

Assembly Bill 617

Assembly Bill 617 (AB 617) was signed into law in 2017 by then-Gov. Jerry Brown and was meant to involve community members in developing new, innovative actions that go beyond existing state and regional regulations and programs to reduce air pollution in disproportionately burdened communities. AB 617 requires the California Air Resources Board (CARB) and air districts to develop and implement additional emissions reporting, monitoring, reduction plans and measures in an effort to reduce air pollution exposure in identified communities. The program also calls for a committee of local community members to be assembled to come up with ways to reduce the identified pollution using grant funding provided by the state. The committee is to be comprised of residents, business owners, environmental justice advocates, local government officials and air regulators.

Since 20 of the 30 most disadvantaged communities in California are in the San Joaquin Valley, this process is expected to bring additional clean air resources and strategies to many Valley communities.

Lamont and nearby Arvin were recently identified as being located in a geographic area that is "a trap for air pollution." An environmental analysis found that Arvin and Lamont have a higher pollution burden than 95 percent of the state's 8,000 census tracts.

The sources of pollution are both regional and local. Pollution from larger cities like Bakersfield and Fresno and even as far away as Sacramento are known to contribute to sink down through the valley and collect in Arvin and Lamont. But the communities also have 38 stationary sources of emissions that contribute to pollution, including pesticides, agriculture operations and oil and gas activity. The AB 617 program will hopefully bring more resources to the Valley Air District's longstanding efforts to develop and implement regulatory and incentive-based clean air strategies throughout the San Joaquin Valley.

Although complete attainment of every clean air standard is not yet imminent, extrapolation of the steady improvement trend suggests that such attainment could occur within the reasonably near future.

Table III-1

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,6}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM ₁₀) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		
Fine Particulate Matter (PM _{2.5}) ⁹	24 Hour	—	—	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—	—	
Nitrogen Dioxide (NO ₂) ¹⁰	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO ₂) ¹¹	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (186 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ¹¹	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) ¹¹	—	
Lead ^{12,13}	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m ³ (for certain areas) ¹²	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m ³		
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB PIO at (916) 322 2990

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Table III-1 (continued)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ($1.5 \mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB PIO at (916) 322 2990

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**Table III-2
 HEALTH EFFECTS OF MAJOR CRITERIA POLLUTANTS**

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> • Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Respirable Particulate Matter (PM-10)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> • Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics. 	<ul style="list-style-type: none"> • Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

**Table III-3
 AIR QUALITY MONITORING SUMMARY (2018-2020)
 (Measured Number of Days Standards Were Exceeded)**

Pollutant/Standard	2018	2019	2020
Ozone			
1-Hour > 0.09 ppm (S)	15	3	22
8-Hour > 0.07 ppm (S)	65	37	70
8- Hour > 0.075 ppm (F)	34	14	38
Max. 1-Hour Conc. (ppm)	0.113	0.108	0.133
Max. 8-Hour Conc. (ppm)	0.100	0.086	0.104
Nitrogen Dioxide			
1-Hour > 0.18 ppm (S)	0	0	0
Max. 1-Hour Conc. (ppm)	0.057	0.064	0.065
Respirable Particulates (PM-10)			
24-Hour > 50 µg/m ³ (S) measured	13	17	18
24-Hour > 150 µg/m ³ (F) measured	0	0	1
Max. 24-Hr. Conc. (µg/m ³)	136.	116.	193.
Fine Particulates (PM-2.5)			
24-Hour > 35 µg/m ³ (F) measured	9	3	17
Max. 24-Hr. Conc. (µg/m ³)	100.9	83.7	158.6

S=State Standard
 F=Federal Standard
 Ozone: Arvin-Di Giorgio at 19405 Buena Vista Blvd
 Nitrogen Dioxide: Bakersfield Municipal Airport
 PM-10: Bakersfield-5558 California Avenue
 PM-2.5: Bakersfield-410 E Planz Road

The San Joaquin Valley Air Pollution Control District (SJVAPCD) operates a regional monitoring network that measures the ambient concentration of criteria pollutants. Only ozone has a monitoring station near Lamont (in Arvin at 19405 Buena Vista Boulevard). Currently, particulate data is only available in Bakersfield. Table III-3 summarizes the monitoring history from the Bakersfield and Arvin monitoring stations for the last three years. From these data one can infer that baseline air quality levels for particulates near the project site are occasionally unhealthful. As part of AB 617 a more local particulate monitoring station for Lamont and Arvin will be installed which will more accurately provide local particulate data.

- a. Photochemical smog (ozone) levels occasionally exceed standards. The 8-hour state ozone standard has been exceeded an average of 16 percent of all days in the past three years near the project site and the 8-hour federal was violated 8 percent during the same period. The 1-hour state standard has been violated less than 4 percent of all days in the last three years.
- b. Respirable dust (PM-10) levels frequently exceed the state standard. Of all measurement days, on average 17 days have shown exceedances of the state standard, the less stringent federal PM-10 standard was only violated once for the same time period. The 17 measurement days correlate to 108 estimated days for 2019.
- c. The federal ultra-fine particulate (PM-2.5) standard of 35 µg/m³ is also occasionally exceeded in Bakersfield. From available data 10 days in 2019 and 51 days in 2020 have exceeded the 35 µg/m³ standard.

Plans are in place to focus on particulates which would provide an improvement trend within the reasonably near future.

Air Quality Planning

Fugitive dust emissions generated by construction activities are regulated by the SJVAPCD. Construction activities must comply with all applicable SJVAPCD rules and regulations, including SJVAPCD's Regulation VIII. Regulation VIII consists of several individual rules that require implementation of best available control measures (BACMs) to limit construction dust emissions.

Fugitive dust emissions generated by construction activities are regulated by the SJVAPCD. Construction activities must comply with all applicable SJVAPCD rules and regulations, including SJVAPCD's Regulation VIII. Regulation VIII consists of several individual rules that require implementation of best available mitigation measures to limit construction dust emissions.

The San Joaquin Valley Air Basin has been determined by ARB and EPA to be in attainment of federal PM-10 standards. Regulation VIII has been accepted by ARB and EPA to maintain attainment of PM-10 standards in the Air Basin. In developing the 2007 Maintenance Plan, the SJVAPCD evaluated the potential PM-10 emissions that could occur under all sources within the Air Basin and developed rules and procedures to reduce future emissions sufficiently to maintain the existing attainment status. The basin is non-attainment for PM-2.5 and ozone. The full attainment status is shown in Table III-4.

**Table III-4
 SAN JOAQUIN VALLEY AIR BASIN ATTAINMENT STATUS¹**

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone – 1 Hour	Nonattainment/Extreme	Nonattainment/Severe
Ozone – 8 Hour	Nonattainment/Extreme	Nonattainment
PM-10*	Attainment	Nonattainment
PM 2.5	Nonattainment	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead Particulates	No Designation	Attainment

*On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.

Air Quality Impact

Standards of Significance

Air quality impacts are considered “significant” if they cause clean air standards to be violated where they are currently met, or if they “substantially” contribute to an existing violation of standards. Any substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact.

Appendix G of the California CEQA Guidelines offers the following five tests of air quality impact significance. A project would have a potentially significant impact if it:

- a. Conflicts with or obstructs implementation of the applicable air quality plan.
- b. Results in a cumulatively considerable net increase of any criteria pollutants 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).
- c. Exposes sensitive receptors to substantial pollutant concentrations.
- d. Creates objectionable odors affecting a substantial number of people.

¹ <https://www.valleyair.org/aqinfo/attainment.htm>

The San Joaquin Valley Air Pollution Control District developed a CEQA Implementation Document that assigned an emissions level that it recommends should be considered as creating a potentially significant air quality impact. Construction projects are considered to have a significant air quality impact if they cause the following annual emissions to be exceeded (tons/year):

CO	-	100
NOx	-	10
ROG	-	10
SOx	-	27
PM-10	-	15
PM-2.5	-	15

The project is not expected to generate any new operational air quality emissions.

Significance could also derive from emissions of odors or hazardous air pollutants. Development of a wastewater conveyance system would not typically generate any hazardous air pollutants or odors because system components are all enclosed.

NEPA guidelines do not encourage designation of impacts as (in)significant. However, Section 176(c) of the Clean Air Act Amendments of 1990 prohibits federal participation in projects that would impede implementation of the state implementation plan (SIP) for federal non-attainment pollutants. "Participation" includes project funding as well as granting any federal permits. If the project-related emissions from construction and operations are less than specified "*de minimis*" levels, no further SIP consistency demonstration is required. San Joaquin Valley is designated as a non-attainment area for the federal 8-hour ozone standard. The basin is nonattainment for PM-2.5 and has been determined by ARB to be in attainment of federal PM-10 standards. Based upon these designations, the following emissions levels are presumed evidence of SIP conformity:²

Ozone VOX or NOx	10 tons/year
Carbon Monoxide	100 tons/year
PM-10	100 tons/year
PM-2.5	100 tons/year
NOx	100 tons/year

These *de minimis* thresholds are less stringent than the SJVAPCD CEQA thresholds. If project air quality impacts in the basin are less-than-significant under CEQA, they are automatically in conformance under NEPA.

The project is not expected to generate any operational air quality emissions.

Significance could also derive from emissions of odors or hazardous air pollutants. Development of potable water supply wells and a conveyance system would not typically generate any hazardous air pollutants or odors because system components are all enclosed.

Construction Emissions

CalEEMod was developed by the SCAQMD to provide a model by which to calculate both construction emissions and operational emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions.

² <https://www.epa.gov/general-conformity/de-minimis-tables>

The proposed project consists of four replacement wells at different locations. The project also includes extension of new water lines and demolition of the existing wells and installation of new water meters. The primary composition of the proposed project is as follows:

- Well 13 Replacement Site: An approximate 1.6-acre site
- Well 11 Replacement Site: An approximate 1.0-acre site
- Well 5 Replacement Site: An approximate 0.27-acre site
- Fourth Potential Well Site: An approximate 1.0-acre site

Lamont PUD will drill the test wells using a casing hammer drill at each location and will be drilled to an approximate depth of 900 feet. Once drilled, each well will be equipped with vertical turbine pumps, motors, discharge piping, electrical controls, and connections installed to the existing distribution system.

In conjunction with replacement of the wells the following actions will be completed: properly abandon EAPOA Wells 1 and 2; demolish the existing EAPOA 25,000- and 44,000-gallon water storage tanks (steel storage tanks); demolish and remove existing booster pump stations at Well 1 and 2; and install water meters at the existing 81 water connections.

It is assumed that a working crew of 4 persons will conduct well drilling at each well location. The test wells should be completed within 30 working days. Depending on the well viability, a production well drilling rig will then be brought onto the property and will be drilled. This will require about 40 working days of continuous drilling to complete. Once a production well has been completed, the well will be equipped and the pipeline connecting to the LPUD water distribution system will be installed.

A new 10-inch water transmission line is proposed to be installed along Di Giorgio Road which will require excavation and installation of approximately 11,000 feet of pipeline. Assuming 200 feet of line installation per day for a single pipeline installation crew the 11,000 feet of 10-inch pipeline installation will require about 55 working days.

At the intersection of Di Giorgio Road and Alderwood Street an 8-inch diameter water distribution line will connect into the 10-inch transmission line and a new looped distribution line will be installed within the residential area. This new water line will be approximately 20,000 feet in length. The pipeline crew will each require about six employees to complete about 200 feet of pipeline installation per day. This is estimated to require an estimated 100 working days to complete installation.

Estimated construction emissions were modeled using CalEEMod2016.3.2 to identify maximum emissions for each pollutant during project construction. Sere construction equipment assumptions in Table III-5

For drilling, some equipment would operate 24 hours a day and was modeled accordingly. Although installation of the water meters at the existing 81 water connections is part of this project it is assumed this activity will be accomplished with hand tools and therefore was not included.

**Table III-5
 CalEEMod CONSTRUCTION ACTIVITY EQUIPMENT FLEET AND WORKDAYS**

Demo or Abandon Existing Wells (2 months)	1 Concrete Saw
	1 Dozer
	2 Loader/Backhoes
Test Wells Drilling (30 days)	1 Drill Rig
	1 Pump
Production Well Drilling and Casing (40 days)	1 Drill Rig
	1 Pump
	1 Loader/Backhoe
Equipping Production Wells (20 weeks)	1 Crane
	1 Welder
	1 Loader/Backhoe
	1 Generator Set
	1 Forklift
Trench and Install Pipeline (8 months)	1 Concrete Saw
	1 Trencher
	1 Forklift
	1 Loader/Backhoe

Utilizing this indicated equipment fleet and durations the following annual construction emissions are calculated by CalEEMod and are listed below in Table III-6.

**Table III-6
 CONSTRUCTION ACTIVITY EMISSIONS, MAXIMUM ANNUAL EMISSIONS (tons/year)**

Maximal Construction Emissions	ROG	NOx	CO	SO₂	PM-10	PM-2.5
Construction 2022	0.14	1.26	1.28	<0.01	0.29	0.18
Construction 2023	0.07	0.53	0.67	<0.01	0.05	0.03
NEPA Threshold	10	100	100	100	100	70
JQVAPCD Regional Emissions Threshold	10	10	100	27	15	15

Source: CalEEMod output in Appendix 3

Annual construction activity emissions are estimated be below CEQA and NEPA thresholds without the need for added mitigation. There are no standards for daily emissions.

Emissions will be well below significance thresholds. Locally, the mobile nature of these sources, the minimal surrounding receptor density and the regional spread of emissions from off-site construction vehicles would minimize the exposure to any individual receiver of any project-related construction emissions. These emissions, therefore have a less than significant individual impact, but would be added cumulatively to a large volume of non-project mobile source emissions within the Kern County area.

Operational Impacts

A water storage and distribution project will not have any associated operational impacts. The project will not generate any additional trips over existing conditions although electrical consumption for pumping may be minutely increased. Electrical consumption has no single uniquely related air pollution emissions source

because power is supplied to and drawn from a regional grid. Electrical power is generated regionally by a combination of non-combustion (nuclear, hydroelectric, solar, wind, geothermal, etc.) and fossil fuel combustion sources. There is no direct nexus between consumption and the type of power source or the air basin where the source is located. Operational air pollution emissions from electrical generation are therefore not attributable on a project-specific basis.

Odor

Project operations (pumping and conveyance) are essentially a closed system with negligible odor potential.

CEQA Threshold Impacts

- IIIa. *Less Than Significant Impact* – The proposed project will install replacement well and conveyance infrastructure within an existing residential community. No change in land use will occur and the emissions generated by the proposed project during construction and future operations are well below the thresholds of significance. Thus, the proposed project will not conflict with or obstruct the applicable Kern County air quality plan.
- IIIb. *Less Than Significant Impact* – The emission data indicate that the project related emissions are below significance thresholds and will not contribute in a cumulatively considerable impact in the San Joaquin Air Basin.
- IIIc. *Less Than Significant Impact* – Construction emissions are well below annual thresholds and have no potential to expose sensitive receptors to substantial pollutant concentrations.
- IIId. *Less Than Significant Impact* – Based on the type of facilities (new water wells, pipeline and water meters), no significant odor impacts are forecast to occur as a result of implementing the proposed project.

Construction Emission Mitigation

Construction activities are not anticipated to cause emissions to exceed CEQA or NEPA thresholds. Nevertheless, emissions minimization through enhanced dust control measures is required to comply with SJVAPCD Regulation VIII related to dust control.

- AQ-1 Regulation VIII Control Measures for Construction Emissions of PM-10:**
- **All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.**
 - **All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.**
 - **All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.**
 - **With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.**
 - **When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.**
 - **All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.)**

- *Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.*
- *Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.*
- *An owner/operator of any site with 150 or more vehicle trips per day, or 20 or more vehicle trips per day by vehicles with three or more axles shall implement measures to prevent carryout and trackout.*

AQ-2 *Recommended Enhanced Additional Measures for Construction Emissions of PM-10:*

- *Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the site.*
- *Install wind breaks at windward side(s) of construction areas.*
- *Suspend excavation and grading activity when winds exceed 20 mph.*
- *Limit area subject to excavation, grading, and other construction activity at any one time.*

AQ-3 *Recommended for Heavy Duty Equipment (scrapers, graders, trenchers, earth movers, etc.):*

- *Use alternative fueled or catalyst equipped diesel construction equipment.*
- *Minimize idling time (e.g., 5 minutes maximum).*
- *Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.*
- *Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).*
- *Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways.*
- *Implement activity management (e.g., rescheduling activities to reduce short-term impacts).*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
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 Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION: The information provided in this section of the Initial Study is abstracted from the following technical study: “2022 Biological Resources Assessment for the Lamont Public Utilities District Water Supply Improvement Project,” Jacobs Engineering Group, Inc., February 2, 2022. This study is provided as Appendix 4 of this Initial Study.

Background

The Project Area is within the Lamont area of unincorporated Kern County, which is situated in the southern end of the San Joaquin Valley and is bound by the Coast Range to the west, the Transverse Range (San Emigdio Mountains) to the south, and the Sierra Nevada (including the Tehachapi Mountains) to the east. The environmental setting of the Lamont area is subject to an arid climate, with both seasonal and annual variations in temperature and precipitation. Average annual maximum temperatures within this region peak at 98.4 degrees Fahrenheit (° F) in July and fall to an average annual minimum temperature of 34.5° F in December. Average annual precipitation is greatest from November through April and reaches a peak in February (1.07 inches). Precipitation is lowest in the months of July and August (0.02 inches). Annual total precipitation averages 5.64 inches. The topography of the Project Area is relatively flat, with an on-site elevation of approximately 400 feet above mean sea level (amsl).

The proposed Project is entirely within an existing developed/disturbed environment consisting of existing residential dwellings, agricultural fields and paved and unpaved roads (Figure 3 of Appendix 4). The

surrounding land consists of agricultural and residential development and no longer supports any native habitats. Vegetation within the Project Area is either absent (i.e., the proposed solar field and pipeline alignment) or dominated by non-native, invasive and ruderal species (see Site Photos, Appendix 4).

The Project Area is not located within or adjacent any USFWS designated Critical Habitat units. Jacobs' biologist Lisa Patterson conducted a biological resources and jurisdictional waters assessment of the Project Area on September 28 and December 10, of 2021. The survey area encompassed the entire proposed Project footprint including the Project's proposed wells and proposed water supply pipelines and well sites where access was available. The pedestrian survey included 100 percent coverage of the proposed pipeline alignments, as well as an approximately 200-foot buffer area on either side of the pipeline alignment, where feasible and appropriate.

Wildlife species were detected during field surveys by sight, calls, tracks, scat, or other signs. In addition to species observed, expected wildlife usage of the site was determined per known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. The Project Area was assessed for habitat type, structure, species composition/association, condition and human disturbances. The focus of the faunal species survey was to identify potential habitat for special status wildlife within the Project area.

The Project site is completely disturbed, consisting of residences, small ranches, unvegetated fallow agricultural land, existing paved and unpaved road, and existing District facilities. No listed species, or other special status species, were observed during survey and no suitable habitat for any of the State- or federally-listed species identified in the database queries and literature review exists within the proposed Project Impact Area. The surrounding area is also disturbed, consisting primarily of residential development, utility infrastructure and agriculture. There are no channels, ditches or other water features occurring within the Project area.

Potential Impacts

- IVa. *Less Than Significant Impact* – Implementation of the Project does not have a potential for a significant adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. As discussed above, the proposed project does contain habitat suitable for sensitive species within the project sites. Based on these findings, the proposed project will not cause a significant adverse impact under this issue.
- IVb. *Less Than Significant Impact* – Implementation of the proposed project will not have an adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. The Project site consists of several highly disturbed locations. Thus, most of the sites are disturbed and no longer supports any native habitat. The Project site is primarily dominated by invasive, non-native and ruderal native plant species. According to the biology study of the site, provided as Appendix 4 to this Initial Study, the Project site is not located within any sensitive habitats, including any USFWS designated Critical Habitat for any federally-listed species. No Riparian/Riverine areas were found within the Project site. There are no natural or man-made streams or other aquatic or riparian habitats within the Project site. Based on the field survey conducted and the information contained in Appendix 4, the proposed project has a less than significant potential to impact to riparian habitat or other sensitive communities. No mitigation is required.
- IVc. *No Impact* – Please refer to the discussion under IV(b) above. According to the data gathered by Jacobs as reported in Appendix 4, no federally protected wetlands occur within the project footprint. Additionally, the biology study determined that no Vernal Pools were identified within the Project site and based on a review of historic aerial imagery and USGS topographic maps, no vernal pools or other natural wetland features existed historically within the Project site. Therefore, implementation of the proposed project will have no potential to impact any federally protected wetlands—including,

but not limited to, marsh, vernal pool, coastal, etc.—through direct removal, filling, hydrological interruption, or other means. No mitigation is required.

- IVd. *Less Than Significant With Mitigation Incorporated* – As indicated previously, the site and environs are completely disturbed; no large areas of open space exist in the immediate project area that would facilitate wildlife movement. However, when development proceeds, the project site could contain nesting birds, which could be adversely impacted. The federal Migratory Bird Treaty Act (MBTA) protects all native bird species. A variety of birds, which are protected by the MBTA, could nest in the proposed project area. As such, to prevent interfering with native bird nesting, the following mitigation measure shall be implemented.

BIO-1 *The State of California prohibits the “take” of active bird nests. To avoid impacts to nesting birds (common and special status) during the nesting season (generally between February 1 to August 31), a qualified Avian Biologist shall conduct pre-construction nesting bird survey prior to Project-related disturbance to identify any active nests. If no active nests are found, no further action would be required. If an active nest is found, the biologist shall set appropriate no-work buffers around the nest, which would be determined based on the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.*

Thus, with implementation of the above measure, any effects on wildlife movement or the use of wildlife nursery sites can be reduced to a less than significant impact.

- IVe. *Less Than Significant Impact* – Based on the field survey, the project footprint contains few or no trees that may need be removed as part of the proposed project. Furthermore, the Lamont area is unincorporated and is not subject to any local policies or ordinance the protect native plants. Therefore, it will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No significant adverse impacts are anticipated and no mitigation is required.
- IVf. *No Impact* – The project sites are not located within any area identified as being covered by a Habitat Conservation Plan, Natural Community or other approved biology conservation plan. Therefore, the project has no potential to conflict with the provisions of any such plan. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The information under this topic is abstracted from the following report, “Identification and Evaluation of Historic Properties Lamont Public Utilities District Water Supply Improvement Project”, CRM TECH, February 2022 (Appendix 5 of this document).

Background

The following text contains the executive summary from Appendix 5.

Between September 2021 and February 2022, at the request of Tom Dodson & Associates, CRM TECH performed a cultural resources study on the Area of Potential Effects (APE) for the proposed Lamont Public Utilities District (LPUD) Water Supply Improvement Project in and near the unincorporated community of Lamont, Kern County, California. The project entails mainly the construction of four new water wells to replace four contaminated wells, which will be abandoned along with associated equipment such as reservoir tanks and booster stations. As a part of the project proposal, the El Adobe Property Owners Association would be incorporated into the LPUD service area, which would require the installation of a total of approximately 30,000 linear feet of pipelines, including a 10-inch water transmission main line along Di Giorgio Road and 8-inch distribution lines from the main line to individual residences.

The APE for the project encompasses the maximum extent of ground disturbance required during construction. Horizontally, it consists of the rights-of-way for the new water transmission main line and the distribution lines as well as the four replacement well sites listed below:

- Well No. 13: approximately 1.6 acres at the northwest corner of San Diego Street and Hall Road (Assessor’s Parcel No. [APN] 186-080-05);
- Well No. 11: approximately 1.0 acre on the south side of Di Giorgio Road and to the west of Main Street (a.k.a. Weedpatch Highway/State Route 184; a part of APN 187-030-04);
- Well No. 5: approximately 0.27 acre at the southeast corner of Maxey Drive and Main Street (APN 188-290-32);
- Fourth potential well site: approximately 1.0 acre located to the east of Habecker Road and north of the extension of Segrue Road (a part of APN 188-250-30).

Collectively, the four well sites measure approximately 3.87 acres in total. The vertical extent of the APE, represented by the maximum depth of disturbance, is anticipated to be five to ten feet below surface along the pipeline alignments and up to 900 feet at the well sites. The various portions of the noncontiguous APE are scattered across the town of Lamont and to the west of the town, within Sections 1-3 and 9-12 of Township 31 South Range 28 East and Sections 6 and 7 of Township 31 South Range 29 East, Mount Diablo Baseline and Meridian, as depicted in the United States Geological Survey Lamont and Weed Patch, Calif., 7.5’ quadrangles.

This technical study is a part of the environmental review process required for the project by the lead agency, namely the LPUD, in compliance with the California Environmental Quality Act (CEQA). As the project may involve federal funding administered by the State Water Resources Control Board (SWRCB), it is considered a federal “undertaking” subject to Section 106 of the National Historic Preservation Act (NHPA) as well. The purpose of the study is to provide the LPUD and the SWRCB with the necessary information and analysis to determine whether the undertaking would have an adverse effect on any “historic properties,” as defined by 36 CFR 800.16(l), or “historical resources,” as defined by Calif. PRC §5020.1(j), that may exist within the APE.

In order to accomplish this objective, CRM TECH initiated a cultural resources records search, pursued historical and geoarchaeological background research, contacted Native American representatives, and carried out a systematic field survey of the entire APE. Throughout the course of these research procedures, no “historic properties” or “historical resources” were encountered within the APE, and the extensively disturbed subsurface sediments in the vertical extent of the APE appear to be relatively low in sensitivity for potentially significant archaeological remains of prehistoric or early historical origin.

Based on these findings, and pursuant to 36 CFR 800.4(d)(1) and Calif. PRC §21084.1, CRM TECH recommends to the LPUD and the SWRCB a conclusion that the proposed undertaking would have *No Effect* on any “historic properties” or “historical resources.” No further cultural resources investigation will be necessary for the undertaking unless project plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are discovered during earth-moving operations associated with the undertaking, all work in the immediate area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the find.

Impacts

Va&b. *Less Than Significant With Mitigation Incorporated* – The historical and archaeological resources report provided as Appendix 5 summarizes the findings of a cultural resources records search and field survey that was completed for this Project. The cultural resources report concluded that there are no surface historical or archaeological resources within the proposed project sites, and as such no further cultural resources have been identified as being located on sites. However, as stated in the background summary above, contingency mitigation is recommended to ensure the possibility for the society to salvage the spring structure within the project site. As such, the following mitigation measure shall be implemented. Thus, if buried cultural materials are accidentally exposed/ discovered during any earth-moving operations associated with the Project, the following mitigation measure shall be implemented:

CUL-1 Should any subsurface or other cultural resources be encountered during construction of the proposed project, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate management measures within the guidelines of the California Environmental Quality Act. The recommendations shall be implemented by the District.

With the above contingency mitigation incorporation, potential for impact to cultural resources will be reduced to a less than significant level. No additional mitigation is required.

Vc. *Less Than Significant Impact* – No available information suggests that human remains may occur within the APE and the potential for such an occurrence is considered very low. Human remains discovered during the project will need to be treated in accordance with the provisions of HSC §7050.5 and PRC §5097.98, which is mandatory. State law (Section 7050.5 of the Health and Safety Code) as well as local laws requires that the Police Department, County Sheriff and Coroner’s Office receive notification if human remains are encountered. Compliance with these laws is considered adequate mitigation for potential impacts and no further mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VI. ENERGY: Would the project:				
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

Vla&b. *Less Than Significant With Mitigation Incorporated* – The proposed project consists of drilling up to four new wells, installing connecting pipelines and support equipment, extending a new water line to the EAPOA community, and installing new water meters within the EAPOA community. These activities will consume energy during construction and during future operations (primarily to operate well pumps and any pump stations.) During construction, the proposed project will utilize construction equipment that is CARB approved, minimizing emissions generated and electricity required to the extent feasible (as outlined under Section III, Air Quality, above). As stated in Section III, Air Quality, the construction of the proposed Lamont Public Utilities District’s Water Supply Improvement Project would require mitigation measures to minimize emissions impacts from construction equipment use (refer to MM **AQ-3**). These mitigation measures also apply to energy resources as they require equipment not in use for 5 minutes to be turned off, and for electrical construction equipment to be used where available. These measures would prevent a significant impact during construction due to wasteful, inefficient, or unnecessary consumption of energy resources, and would also conform to the CARB regulations regarding energy efficiency.

During future operations overall energy use may change, up or down, for the following reasons. The Lamont PUD will continue to supply water within the community and begin serving the EAPOA. The new wells will not directly increase the volume of water required by the agency’s customers. With new, more energy efficient ground water pumps energy used per volume of water production should be reduced relative to the existing condition. Further, one of the project’s goals is to tap into a portion of the groundwater aquifer where water quality will be improved and hence require less energy intensive treatment compared to the existing condition. Finally, installation of water meters has historically reduced water consumption in areas that were previously unmetered as the actual cost of water can now be defined. Based on these factors, the project will minimize energy consumption related to water supply for the two communities.

Energy consumption encompasses many different activities. For example, construction can include the following activities: delivery of equipment and material to a site from some location (note it also requires energy to manufacture the equipment and material, such as harvesting, cutting and delivering wood from its source); employee trips to work, possibly offsite for lunch (or a visit by a catering truck), travel home, and occasionally leaving a site for an appointment or checking another job; use of equipment onsite (electric or fuel); and sometimes demolition and disposal of construction waste. To minimize energy costs of construction debris management, mitigation has been established to require diversion of all material capable of being recycled. The project will meet this requirement. Energy consumption by construction equipment will be reduced by requiring shutdowns when equipment is not in use after five minutes and ensuring equipment is being operated within proper operating parameters (tune-ups) to minimize emissions and fuel consumption. These requirements are consistent with State and regional rules and regulations. Under the construction scenario outlined above, the proposed project will not result in wasteful, inefficient, or unnecessary energy consumption during construction.

The proposed project is currently, and will continue to be powered by Southern California Edison (SCE) through the power distribution system located within the project area. SCE will be able to supply sufficient electricity, as the proposed use would likely utilize less energy than previously for the reasons outlined above. The project site will not require natural gas to operate. Security lighting must be constructed in conformance with a variety of existing energy efficiency regulatory requirements or guidelines including:

- Compliance California Green Building Standards Code, AKA the CALGreen Code (Title 24, Part 11), which became effective on January 1, 2017. The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of building through the use of building concepts encouraging sustainable construction practices.
- Compliance with diversion of construction and demolition materials from landfills.
- Compliance with AQMD Mandatory use of low-pollutant emitting finish materials.
- Compliance with AQMD Rules 431.1 and 431.2 to reduce the release of undesirable emissions.
- Compliance with diesel exhaust emissions from diesel vehicles and off-road diesel vehicle/equipment operations.

Compliance with these regulatory requirements for operational energy use and construction energy use would not be a wasteful or unnecessary use of energy. Under both the operational and construction scenarios for the proposed project, with implementation of mitigation measure AQ-2, the proposed project will not result in wasteful, inefficient, or unnecessary energy consumption that could result in a significant adverse impact to energy issues based on compliance with the referenced laws, regulations and guidelines.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VII. GEOLOGY AND SOILS: Would the project:				
a) Directly or indirectly cause 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

The proposed project consists of new replacement wells and support facilities; water pipelines; removal of water tanks and closure of EAPOA wells; and installation of water meters. None of these facilities will be occupied by humans.

VIIa. (i) *No Impact*- According to the County of Kern General Plan, Figure 13, the community of Lamont is not underlain by any known active faults (Figure VII-1). The nearest fault is the White Wolf located south of Arvin about 10 miles south of Lamont. The potential for significant adverse impact from fault activity within the project area is concluded to be no adverse impact from this geotechnical constraint.

VIIa (ii) *Less Than Significant Impact* – According to the General Plan EIR (Page 4.1-7) most of Kern County is subject to moderate to extreme seismic ground shaking. Due to general proximity to the White Wolf Fault (Figure VII-1), Lamont could experience substantial seismic ground shaking in the

future. However, the type of uninhabited water infrastructure proposed by this project are not particularly subject to ground shaking damage, and if removed from production can readily repaired by Lamont PUD employees. Based on the lack of human risk, requirements to meet current Uniform Building Code design and construction requirements, and the ability to quickly repair the water infrastructure if damaged by ground shaking, the potential adverse impact from seismic ground shaking is concluded to be a less than significant impact.

- VIIa. (iii) *Less Than Significant Impact* – The County General Plan does not identify any liquefaction hazards in the Lamont area (GPEI, Page 4.1-8). This finding is confirmed by the fact that groundwater depth for the existing Lamont wells is about 400 feet below the ground surface (Lamont Public Utility District Hydrogeologic Study, 2020). Thus, the project area has a low to negligible potential for liquefaction hazard for the proposed water infrastructure facilities. Based on these findings, the potential adverse impact from liquefaction or other seismic ground failure is concluded to be a less than significant impact.
- VIIa. (iv) *No Impact* – Lamont is located on the valley-floor of the San Joaquin Valley in Kern County. There are no elevated areas in the vicinity of Lamont from which a landslide (sediment or rock) could originate. Based on these findings, the potential adverse impact from a landslide at all the proposed project locations is a no impact finding.
- VIIb. *Less Than Significant With Mitigation Incorporated* – Given the total area of the proposed project, it is anticipated that more than one acre of ground disturbance will occur in relation to the wells, pipeline installation. As a result, the proposed project will be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). Site specific best management practices (BMPs) shall be implemented to minimize erosion and sedimentation. Mitigation is provided below to ensure implementation. Because the disturbances will occur within existing disturbed ROWs and sites, it should not be necessary to implement long-term BMPs as they should already be installed at the various sites.

GEO-1 *The construction contractor shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices that will prevent construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving offsite into receiving waters. The SWPPP may include but not be limited to the following BMPs.*

- *The length of trench which can be left open at any given time should be limited to that needed to reasonably perform construction activities. This will serve to reduce the amount of backfill stored onsite at any given time.*
- *Backfill material should not be stored in areas which are subject to the erosive flows of water.*
- *Stored backfill material should be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of stored backfill material. If covering is not feasible, then measures such as the use of straw bales, sandbags, silt fencing or detention/desilting basins shall be used to capture and hold eroded material on the project site for future cleanup.*
- *The SWPPP shall include a spill prevention and cleanup plan to account for the accidental release of petroleum products or other contaminants during construction activities. This plan shall identify the methods of containing spills, the methods of removing and disposing of spills and the notification procedures to the appropriate regulatory agencies with jurisdiction over such spills.*
 - *Apply erosion and sediment control design that reduce volume and velocity of flows and content of sediment to levels that do not cause significant rill or gully erosion in susceptible areas. In addition, provide for restoration of areas that do become eroded.*

- **Add protective covering of mulch, straw or synthetic material (erosion control blankets, tacking will be required).**
- **Limit the amount of area disturbed and the length of time slopes and barren ground are left exposed. After pipeline installation, soil shall be compacted to a level similar to pre-construction conditions.**
- **Construct diversion dikes and interceptor ditches to divert water away from construction areas.**

Implementation of the preceding measure and other measures within the Hydrology/Water Quality are deemed sufficient to control adverse erosion impacts associated with installation of the proposed facilities.

VIIc. *Less Than Significant With Mitigation Incorporated* – Based on a review of the Kern County Safety Element, Figure 12 (Figure VII-2), there is no other known geotechnical stability hazard in the Lamont Project area. However, Figure 15 (Figure VII-3) indicates that Lamont is located on the northern edge of an area experiencing/undergoing subsidence, most likely due to extraction of either oil or groundwater. Given this circumstance, the following mitigation measure shall be implemented to protect the water infrastructure.

GEO-2 *Prior to final design of any of the proposed project related water infrastructure, the design engineers shall provide an evaluation of the infrastructure's potential susceptibility to subsidence hazards. and identify specific measures to provide protection to incorporate into the design of the infrastructure if susceptible to damage from such subsidence hazards. The selected design measures shall be integrated into the design of wells, pipelines or other infrastructure constructed in support of the proposed project.*

With implementation of this mitigation measure, the potential adverse impacts due to subsidence can be reduced to a less than significant impact level.

VIIId. *No Impact* – The soils underlying the proposed Lamont water infrastructure facilities are alluvial sands and silts that are not considered as expansive soils that could pose hazards to pipelines and wells. Therefore, no potential exists for this project to create a substantial risk to life or property under this issue.

VIIe. *No Impact* – The purpose of the project is to install new water infrastructure to provide potable water to the community of Lamont and the EAPOA neighborhood. This project will not generate any wastewater and will not require subsurface septic tank or alternative wastewater management systems to be installed or utilized. No adverse impact can occur under this impact category.

VIIIf. *Less Than Significant With Mitigation Incorporated* – Based on the type of sediments at this site (alluvial) and the highly disturbed nature of the ROWs, no paleontological resources should be impacted by the proposed project. The project consists of installing pipelines within existing ROWs and installing wells and other activities within highly disturbed locations. Although the installation of the new facilities will occur within existing disturbed engineering surfaces (primarily paved roadways), the following contingency mitigation measure shall be implemented if subsurface construction activities accidentally expose paleontological resources:

GEO-3 *In the event that paleontological resources are encountered within the project area during construction activities, all land modification activities in the immediate area of the finds should be halted and an onsite inspection shall be performed immediately by a qualified paleontologist. This professional will be able to assess the find, determine its significance, and make recommendations for appropriate management actions. Reasonable paleontological resource management actions shall be implemented to protect the accidentally exposed subsurface resources.*

With implementation of this mitigation measure, the potential adverse impacts to paleontological resources can be reduced to a less than significant impact level.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VIII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The following information utilized in this section was obtained from the technical study “Air Quality and GHG Impact Analyses, Lamont Public Utilities District Water Supply Improvement Project, Lamont, California” prepared by Giroux & Associates dated December 7, 2021 and provided as Appendix 3 to this document.

Background

“Greenhouse gases” (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as “global warming.” These greenhouse gases contribute to an increase in the temperature of the earth’s atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statutes and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California’s reputation as a “national and international leader on energy conservation and environmental stewardship.” It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Requires the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual (BAU) practices by 2020.
- Dictates that any local initiatives must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency.

Greenhouse Gas Emissions Significance Thresholds

In response to the requirements of SB97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March, 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated³. The process is broken down into quantification of project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative, or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate”. The most common practice for transportation/combustion GHG emissions quantification is to use a computer model such as CalEEMod, as was used in the ensuing analysis.

In the Final Staff Report Addressing GHG Emissions Impacts under CEQA, the SJVAPCD notes that ARB staff derived a proposed hybrid threshold consisting of a quantitative threshold of 7,000 metric tons of CO₂ equivalent per year (MTCO₂E/year) for operational emissions (excluding transportation), and performance standards for construction and transportation emissions (CARB).

ARB concludes in its draft proposal that the 7,000 MTCO₂e/year benchmark can be used to effectively mitigate industrial projects with significant GHG emissions. To date, ARB has not finalized its draft proposed threshold, nor has ARB scheduled additional workshops to seek public input on establishing a significance threshold for assessing significance of project specific GHG emission impacts on global climate change. However, in the absence of any other guidance, this 7,000 MT per year recommendation has been used as a guideline for this analysis.

Impact Evaluation

VIIIa. *Less Than Significant Impact* – During project construction, the CalEEMod2016.3.2 computer model predicts that the construction activities will generate 252.8 MT CO₂e emissions in 2022 and 96.7 MT CO₂e in 2023. This is less than the adopted threshold for use by this project. GHG impacts from construction are considered less-than-significant, especially after a 30-year amortization is taken into account. Refer to Appendix 3 for the detailed CalEEMod2016.3.2 emission calculations.

During operations the project will consume electricity (well pumping and lift stations), but the source of the electricity is not well documented, and therefore the volume of GHG emissions cannot be attributed to specific emissions of GHG related to electricity. Other emissions associated with operations, such as maintenance, will remain essentially the same as the replacement wells are placed into operation and maintained by the existing operating staff.

VIIIb. *Less Than Significant Impact* – In December 2009 the SJVAPCD issued a final staff report addressing greenhouse gas emissions under CEQA. That language directly related to this project

³ <https://www.cacities.org/UploadedFiles/LeagueInternet/1c/1c6e4716-42eb-4a2d-ac42-1353a6283a47.pdf>

states that the lead agency should identify GHG emissions based on available information to calculate, model or estimate the amount of CO₂ and other GHG emissions.

With regard to consistency with existing air quality plans, it was determined that because the proposed project would not generate population, residences, or substantial employment, it would neither conflict with nor interfere with the County's adopted growth forecast. Furthermore, as shown in this report, the proposed project's contribution to regional air emissions in the San Joaquin Valley would be very small and are only one time construction emissions. When compliance with applicable rules, such as the SJVAPCD's required emissions controls is considered, the proposed project's regional contribution to cumulative air quality and GHG impacts would be almost negligible.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IX. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION: Refer to the Geotracker and Envirositor data provided in Appendix 6.

IXa. *Less Than Significant Impact* – The proposed project consists of new wells, water distribution pipelines below ground surface, removal of small, deteriorated water reservoirs, and installation of water meters in the Lamont PUD service area and the EAPOA. New water wells will require treatment with chlorine, which can occur with either chlorine gas or sodium hypochlorite. The latter is a solid, not a gas, and is only mildly hazardous. Lamont PUD will utilize sodium hypochlorite to minimize potential for spills or otherwise to harm nearby residents. Other than routine deliveries of sodium hypochlorite, the project will not routinely transport, use, or dispose of hazardous materials. The potential for adverse impact exists under this topic is considered less than significant based on the character of the hazard and the low potential for dispersal in the environment.

IXb. *Less Than Significant With Mitigation Incorporated* – The project may create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. During construction there is a potential for accidental release of petroleum products in sufficient quantity to pose a significant hazard to people and the environment. The following mitigation measure will be incorporated into the Storm Water Pollution Prevention Plan (SWPPP) prepared for the project and implementation of this measure can

reduce this potential hazard to a less than significant level. GeoTracker maps are provided as Appendix 6.

HAZ-1 *All spills or leakage of petroleum products during construction activities will be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste will be collected and disposed of at an appropriately licensed disposal or treatment facility. This measure will be incorporated into the SWPPP prepared for the Project development.*

IXc. *Less Than Significant Impact* – Some of the facilities proposed for installation under the proposed project are located within one-quarter mile of existing schools, but the types of chemicals used during construction and future operations are not acutely hazardous. The proposed project must follow the extensive legal and regulatory requirements in storage, handling, and disposal of any hazardous materials. Based on compliance with these regulatory requirements, the proposed project is not forecast to result in any significant exposure of any school to significant hazards. No mitigation is required.

IXd. *Less Than Significant Impact* – The proposed Project consists of an approximately 3.67-acres spread out over several locations within the community of Lamont. The Project will not be located on a site that is included on a list of hazardous materials sites that are currently under remediation. According to the California State Water Board's GeoTracker website (consistent with Government Code Section 65962.5), which provides information regarding Leaking Underground Storage Tanks (LUST), there are existing clean-up sites within 2,500 feet of the various project sites (Appendix 6). Regardless, the proposed construction and operation of the new Lamont PUD system sites will not create a significant hazard to the population or to the environment from their implementation. No impacts are anticipated. No mitigation is required.

IXe. *No Impact* – There are no airports located in the vicinity of the proposed project sites; therefore, no potential exists for conflicts between the project and any airport operations.

IXf. *Less Than Significant With Mitigation Incorporated* – Although the project is not located on a major evacuation route, the project will be installing a water pipeline in Di Giorgio Road, a major east-west roadway in the community. To ensure that emergency access is available at all locations where pipeline construction will occur within existing road rights-of-way, the following mitigation measure shall be implemented to ensure emergency access to all parcels during construction.

HAZ-2 *During pipeline construction or any construction within road rights-of-way, the contractor shall maintain access to all parcels during construction activities. If necessary, this access can be accomplished by having steel sheets available to cover trenches in front of driveways or provide immediate, temporary access. Also, a traffic management plan shall be submitted and approved by the County to manage and minimize hazards to motorists, bicyclists, and pedestrians during construction.*

IXg. *No Impact* – The project site is located in urban/suburban residential areas and agricultural areas with no wildland areas in the vicinity of any project sites. With no substantial wildland fuel load in the project area, no potential for exposure to a wildland fire hazard exists for the proposed project.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
X. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?; or,	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The following information utilized in this section was obtained from the technical studies prepared by Dee Jasper & Associates, Inc. “MEMORANDUM – Lamont Public Utility District Water Supply Improvement Project” dated December 11, 2020 (Appendix 1); “Preliminary Engineering System Evaluation” dated November 2019 (Appendix 2); and “Hydrogeologic Study (Draft Report)” dated June 15, 2020 (Appendix 7).

Xa. *Less Than Significant With Mitigation Incorporated* – There are three potential sources of water quality degradation: municipal wastewater; direct discharges of pollutants; and indirect discharges of pollutants. This project elements do not include the generation, transport or treatment of wastewater. Therefore, no potential to violate water quality standards or degrade water quality will occur under this pathway. Although direct discharges of pollutants are most typically associated with industrial operations, the purpose of the proposed project is to produce groundwater that meets all Maximum Contaminant Levels (MCLs) for water quality due to some existing wells being contaminated by arsenic and 1,2, 3-TCP. The drilling of a new production well requires a series of steps, including testing the groundwater to determine the quality of the groundwater and its ability to meet potable drinking water standards. Depending on the quality of the groundwater produced, the Lamont PUD may choose to install a treatment unit at one or more well sites to reduce a contaminant level below

a level that could harm water customers. To address this issue, the following mitigation measure will be implemented:

HYD-1 *Based on the groundwater quality identified during pre-production testing, the Lamont PUD may install a water treatment unit (such as Ion Exchange or Reverse Osmosis), to reduce concentrations below the MCL for the pertinent pollutant. The selected unit shall be installed, maintained and operated in a manner that will allow the potable water delivered to customers to meet all primary drinking water standards.*

During the construction to install the various elements of the proposed project, construction activities have a potential to cause indirect discharges of sediment or to concentrate flows and cause erosion. This potential during construction will be controlled by implementing the SWPPP mandated in MM **GEO-1**. Once the various project elements are installed and the ROWs or disturbed sites are returned to their pre-existing condition, the existing drainage system serving the project sites will continue to function and will control long term potential for erosion and sedimentation. Implementation of MM **GEO-1** is considered sufficient to prevent the project from causing significant water quality degradation.

- Xb. *Less Than Significant Impact* – To assess the overall need for system-wide improvements for the Lamont PUD’s water system, a technical Study was prepared by Dee Jaspar & Associates, Inc. (Appendix 7). Based on the findings in the Study, it was recommended that the Lamont PUD replace four existing District wells that have exceedances of the potable water quality MCLs. The specific wells identified for replacement are Wells No. 5, No. 11, No. 12, and No. 13. The District’s goal is to obtain between 800 gallons per minute (gpm) to 1,200 gpm production capacity for each well in order to replace the lost production. Thus, the new production from these four wells is intended to offset the production from closing the four District wells and the two EAPOA wells. Increased well production is not the goal of the Water Supply Improvement District Project. Based on the preceding information, the proposed project will not impede any applicable sustainable groundwater management program for the local aquifer. The proposed well sites will create small areas of impervious surface for the well facilities, but all pipelines will be placed within existing paved or compacted road rights-of-way and will not increase the amount of impervious surface. The removal of the EAPOA water reservoirs will eliminate impervious surface and replace it with pervious surfaces. Overall, the proposed project will not substantially interfere with groundwater recharge within the basin.
- Xc. (i) *Less Than Significant With Mitigation Incorporated* – All of the proposed project site locations are located within urban/suburban settings where permanent drainage facilities already exist. The permanent changes to drainage are minor (less than four acres in Lamont, spread out over the whole community) and minimal increases in runoff will result. During construction, MM **GEO-1** will ensure that substantial erosion and siltation will not occur at the various project sites. Overall impact under this issue is considered to be a less than significant impact.
- Xc. (ii) *Less Than Significant Impact* – The well sites are too small (area of disturbance is typically less than one acre) to substantially increase the rate or amount of surface runoff that would result in flooding onsite or offsite. The pipelines will be installed underground and will not increase impervious surface. The reservoir removal will eliminate existing impervious surface and the installation of the water meters will disturb only a few square feet spread out over the EAPOA neighborhood. None of these activities will substantially increase runoff and cause flooding onsite or offsite.
- Xc. (iii) *Less Than Significant Impact* – Based on the amount of disturbed area spread out over much of the community of Lamont, the proposed project will not contribute runoff that would exceed the capacity of the existing drainage systems serving the proposed facilities and would also not serve as a substantial additional source of polluted runoff. Overall impact under this issue is considered to be a less than significant impact.

- Xc. (iv) *No Impact* – None of the proposed project facilities occur with the path of flood flows. Therefore, the proposed project has no potential to impede or redirect flood flows.
- Xd. *No Impact* – The project area is not subject to either a seiche or tsunami due to the lack of any source of water to generate such hazards. Regarding flood hazards, the FEMA FIRM Panels for the project area are provided in Appendix 8. The project area is identified as being in Zone AE and Zone X. The project area is not located in a high flood hazard zone. A review of the Isabella Lake Dam Inundation map indicates that the Lamont area is located just east of the major flood hazards associated with the Isabella Lake Dam failure and related inundation.
- Xe. *Less Than Significant Impact* – Please refer to the discussions under issues X.a. and X.b. above. The issues of conflict with a water quality control plan or sustainable groundwater management plan are addressed in these two sections of the Initial Study. No significant adverse impacts to these two issues will result from implementing the proposed project.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XI. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- XIa. *Less Than Significant Impact* – The proposed project will not alter land use within the project area and the only feature that has a potential to divide a community is the pipeline from Lamont to EAPOA along Di Giorgio Road. However, this pipeline will be installed underground and therefore, has no potential to divide any existing community. Impact under this issue is considered to be a less than significant impact.
- XIb. *No Impact* – Water facilities are zone and general plan independent because it consists of essential infrastructure that is required to support all land uses. Since the land uses will not be modified, no conflicts with any land use plan or policy for mitigating adverse environmental effects will result from project implementation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XII. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION:

XIIa&b. *No Impact* – The project area is developed with a mix of urban, suburban and agricultural uses and no known mineral resources are known to occur within the project area. Due east of Lamont are two oil well fields, the Edison and Mountain View fields. Limited oil extraction occurs in the area but none of the proposed water infrastructure occurs in areas with above ground oil infrastructure. No potential for adverse impact to mineral resources or mineral resource values will result from project implementation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIII. NOISE: Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of a project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

Background

The proposed project consists of new replacement wells and support facilities; water pipelines; removal of water tanks and closure of EAPOA wells; and installation of water meters. Noise is generated in the following manner by these activities. Well drilling generates noise at the well site during drilling and after installation a well pump to bring groundwater to the ground surface will continue to generate noise. Installation of pipelines generates noise, but once installed below ground the pipelines do not generate noise that is audible during operations. Closure (demolition) of the existing EAPOA wells will also generate some noise but, once completed the closed wells will no longer be a source of noise. Finally, the water meters are envisioned to be installed by hand, using hand tools, some of which may be motorized. Thus, some limited short-term noise is likely to be associated with installation of the water meters, but once

installed below ground the pipelines do not generate noise that will be audible during operation. The potential impacts and recommended mitigation measures to control noise are discussed in the following text.

Noise is generally described as unwanted sound. The unit of sound pressure ratio to the faintest sound detectable to a person with normal hearing is called a decibel (dB). Sound or noise can vary in intensity by over one million times within the range of human hearing. A logarithmic loudness scale, similar to the Richter scale for earthquake magnitude, is therefore used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all sound frequencies within the entire spectrum. Noise levels at maximum human sensitivity from around 500 to 2,000 cycles per second are factored more heavily into sound descriptions in a process called "A-weighting," written as "dBA."

Leq is a time-averaged sound level; a single-number value that expresses the time-varying sound level for the specified period as though it were a constant sound level with the same total sound energy as the time-varying level. Its unit is the decibel (dB). The most common averaging period for Leq is hourly.

Because community receptors are more sensitive to unwanted noise intrusion during more sensitive evening and nighttime hours, state law requires that an artificial dBA increment be added to quiet time noise levels. The State of California has established guidelines for acceptable community noise levels that are based on the Community Noise Equivalent Level (CNEL) rating scale (a 24-hour integrated noise measurement scale). The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," and "clearly unacceptable" noise levels for various land use types. The State Guidelines, Land Use Compatibility for Community Noise Exposure, single-family homes are "normally acceptable" in exterior noise environments up to 60 dB CNEL and "conditionally acceptable" up to 70 dB CNEL based on this scale. Multiple family residential uses are "normally acceptable" up to 65 dB CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries and churches are "normally acceptable" up to 70 dB CNEL, as are office buildings and business, commercial and professional uses with some structural noise attenuation.

XIIIa. *Less Than Significant With Mitigation Incorporated* – Implementation of the proposed project will generate noise. Generally, well drilling equipment can generate noise levels of about 70 to 90 dBA at a distance of 50 feet from the equipment. This is the highest noise exposure from the project activities, as all other construction will occur be limited to daytime activities. Drilling of the 36-inch minimum diameter surface casing/sanitary seal borehole to 50 feet and drilling, by reverse circulation methods, a 17.5-inch minimum diameter pilot borehole from 50 feet to 400 feet below ground surface (bgs) will occur over a 24-hour period until the well is completed to the design depth of about 750 feet to 900 feet bgs. Stationary source noise diminishes at a rate of about 6 dB for each doubling of the distance from the source. This means that periodic construction noise levels at the nearest receptor can be about 70-80 dBA on the exterior of the nearest receptor. The well drilling will likely exceed the County's noise standard of 65 dBA at the exterior of the nearest receptors, which consists of some existing residential development near at each of the four locations that will be temporarily impacted by construction noise. This increase in noise levels will be short term (about 12-20 days). The increased noise levels will not be severe enough to pose a health or hearing hazard, but could be considered a short-term nuisance. Once a well becomes operational, any above ground pump will generate noise; however, this noise can be mitigated, as outlined in the mitigation measure below—by constructing a wooden or concrete housing unit to reduce operational noise levels to a less than significant impact. Additionally, to reduce potential short-term effects of noise and long-term noise effects from all project construction activities to the greatest extent feasible, the mitigation measures presented below will be implemented—which include constructing temporary noise barrier walls and equipment to meet specified noise level limits during construction activities.

NOI-1 LPUD will require the implementation of adequate measures to reduce noise levels to the greatest extent feasible or below 65 dBA, including portable noise barriers or scheduling specific construction activities to avoid conflict with adjacent sensitive receptors.

- NOI-2** *LPUD will require that all construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by District personnel during construction activities.*
- NOI-3** *LPUD will establish a noise complaint/response program and will respond to any noise complaints received for this project by measuring noise levels at the affected receptor. If the noise level exceeds an Ldn of 65 dBA exterior or an Ldn of 45 dBA interior at the receptor, the applicant will implement adequate measures to reduce noise levels to the greatest extent feasible, including portable noise barriers, scheduling specific construction activities to avoid conflict with adjacent sensitive receptors, or relocation of sensitive receptors during high noise activities.*
- NOI-4** *All construction activities other than well drilling and casing landing shall be restricted to daylight hours, unless an emergency exists.*
- NOI-5** *LPUD shall will require that well pumps be installed underground, or that noise levels be at or below 50 dB(A) at the nearest sensitive noise receptor property boundary. Reductions of above ground pump noise can be accomplished by installing surface well housing, which can be a wooden or concrete block structure that attenuates noise to meet this performance standard.*
- NOI-6** *Upon request from adjacent residents, LPUD shall provide the option of relocating adjacent residents for the duration of active 24-hour drilling activity.*
- NOI-7** *Construction activities shall be limited to the hours of 7 a.m. to 6 p.m. on Monday through Friday, and between 9 a.m. to 6 p.m. on Saturday (except for well drilling activities), and shall be prohibited on Sundays and federal holidays except during documented emergencies. No construction may occur during hours of "Darkness" (Night Work), as defined in the California Vehicle Code, Section 280, unless prior authorization is obtained from the County.*
- NOI-8** *All employees that will be exposed to noise levels greater than 75 dB over an 8-hour period shall be provided with adequate hearing protection devices to ensure no hearing damage will result from construction activities.*

Implementation of the preceding mitigation measure can reduce noise exposures from all proposed project activities, both construction and operation, to a less than significant impact level.

- XIIIb. *Less Than Significant With Mitigation Incorporated* – Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by vibration of room surfaces is called structure borne noises. Sources of groundborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous or transient. Vibration is often described in units of velocity (inches per second), and discussed in decibel (dB) units in order to compress the range of numbers required to describe vibration. Vibration impacts related to human development are generally associated with activities such as well drilling operations, construction, and heavy truck movements.

The background vibration-velocity level in residential areas is generally 50 VdB; Groundborne vibration is normally perceptible to humans at approximately 65 VdB, while 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible. Construction

activity can result in varying degrees of groundborne vibration, and can occur as a result of well drilling activities. While no enforceable regulations for vibration exist within the County of San Bernardino, the Federal Transit Association (FTA) guidelines identify a level of 80 VdB for sensitive land uses. This threshold provides a basis for determining the relative significance of potential project-related vibration impacts.

In the short term, most of the construction activities described above (except water meter installation) have some potential to create some vibration to the nearest sensitive receptors at some sites within the project footprint. However, any short-term impacts to the nearest sensitive receptors would be considered less than significant through implementing the following mitigation measure:

NOI-9 *During future construction activities with heavy equipment within 300 feet of occupied residences, vibration field tests should be conducted at the nearest occupied structure. To the extent feasible, if vibrations exceed 72 VdB, the construction activities shall be revised to reduce vibration below this threshold.*

XIIIc. *No Impact* – The project site is not located near an airport and will not experience any aircraft or airport-related noise impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIV. POPULATION AND HOUSING: Would the project:				
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

XIVa&b. *No Impact* – The proposed project will provide potable water system improvements for the community of Lamont and a partially developed residential subdivision (EAPOA). The project has no potential to induce growth or displace existing occupied residences.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XV. PUBLIC SERVICES: 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:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

XVa. *No Impact* – The installation and utilization of the new potable water system facilities have no potential to create any demand for fire protection services that would require new or altered facilities. The proposed project has a positive benefit because it will ensure sufficient water is available to meet fire flow requirements in both communities, Lamont and EAPOA.

XVb-e. *No Impact* – This includes “other public facilities” such as the EAPOA which will have sufficient capacity in the future to meet water supply needs that will be generated by communities without requiring expansion of the local supply at this site.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVI. RECREATION:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

XVIa&b. *No Impact* – The installation and utilization of the water system facilities have no potential to create any demand for recreational facilities that would require new or altered facilities.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVII. TRANSPORTATION: Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

Background Regarding Vehicle Miles Traveled

CEQA Section 15064.3, subdivision (b):

(1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.

(2) Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

(3) Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

(4) Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

XVIIa. *Less Than Significant Impact* – The proposed project includes many locations where specific water system improvement projects will be implemented. This has one very important effect on transportation issues. Because of the many locations where activities will occur (six locations), the effect of construction traffic will be dispersed and not concentrated at one location over the life of construction activities. Thus, the proposed project would not 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.

This project does not propose any new roads. In the short term, construction of the proposed facilities will result in the generation of up to about 10-15 additional roundtrips per day on the roadways adjacent to the various sites by construction personnel, delivery of equipment and materials, and the removal of any graded material and delivery of well construction materials. This increase in traffic will be temporary and is not considered sufficient to affect the level of service of roadways or congestion at any intersection. No measurable increases in traffic are anticipated during operations as the various facilities will replace existing wells and will not require an increase in maintenance or operational activities than that which exists presently at these sites. No mitigation is required.

- XVIIb. *Less Than Significant Impact* – The proposed project is a discrete construction project that does not fit into the standard methodology outlined to address Vehicle Miles Traveled (VMT) issues. The various project elements will be constructed and once the facilities are integrated into the Lamont PUD’s water supply system, the field maintenance personnel will integrate these new facilities into their daily monitoring and maintenance activities. A limited increase in field miles traveled each day may occur due to integration of the EAPOA facilities into the Lamont water system, but such trips are not anticipated to exceed 50 miles per day, based on two trips per day and the approximate 20-mile round trip to maintain such facilities. Further, during construction it is assumed that approximately 25 personnel will be working this project (assumes two work crews) and as many as 10 deliveries will occur by truck per day (total about 35 round trips per day). This will occur over the short term, estimated to be 18 months until all project-related construction activities are completed. Thus, an estimated total of 35 round trips may occur during a typical workday. Since a project such as proposed will be awarded to the lowest bidder, there is no method of controlling vehicle miles traveled in support of the project, other than awarding some points for a local contractor. Due to the type of project, CEQA Guidelines Section 15064.3 does not appear to apply to the proposed project.
- XVIIc&d. *Less Than Significant With Mitigation Incorporated* – The proposed construction activities in road ROWs will be short term, but these activities can create hazards for motorists, bicyclists and pedestrians, particularly along Di Giorgio Road with pipeline installation. Thus, the project-related construction activities have a potential to conflict with continuous access. Mitigation measure **HAZ-2** will be implemented to ensure that hazards are minimize and emergency access is maintained to all parcels.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVIII. TRIBAL CULTURAL RESOURCES: Would the project cause a substantial change in the significance of tribal cultural resources, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to the California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

XVIIIa&b. The Lamont Public Utilities District has not been contacted by any Native American tribes and therefore, was not required to initiate consultation. However, as outlined in the Cultural Resource appendix, Appendix 5 to this document, CRM TECH did consult with the Native American Heritage Commission and received names from several tribes to contact regarding traditional cultural resources. Of the seven tribes contacted by CRM TECH, three responded and indicated no concerns with the location of the proposed project facilities. Mitigation measure **CUL-1** requires field review of any exposed subsurface cultural resources, which would allow any archaeological resources to be identified and Native American tribes contacted, where appropriate. Therefore, the District concludes that sufficient protection will be extended to subsurface Tribal Cultural Resources if any are accidentally encountered during ground disturbing activities.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIX. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

XIXa. *Less Than Significant With Mitigation Incorporated* – The proposed project consists of the redevelopment of the Lamont PUD’s water supply system and the extension of a pipeline and water system improvements to the EAPOA water system for a neighborhood a few miles west of the community and the District’s service area. Based on the detailed evaluation of environmental issues associated with this proposed project (refer to the contents of this Initial Study), the proposed project will not cause a significant adverse impact on any of issues addressed in this Initial Study. The proposed Lamont PUD’s water system improvements are intended to replace the compromised water quality of existing water supplies with a water supply that will meet current water demand, but is not designed to substantially expand water production capabilities from that previously identified, for either the PUD or the EAPOA. Thus, there implementation of the proposed project is not forecast to cause relocation or new construction of expanded wastewater treatment, stormwater drainage, electric power, natural gas or other infrastructure facilities in a manner that would cause a significant environmental effect for any of the issues addressed in this Initial Study Environmental Checklist Form. No mitigation beyond that identified in this document is required.

XIXb. *Less Than Significant Impact*– This project is a replacement for the existing water systems within the Lamont PUD and the EAPOA. The proposed project will not cause or result in greater water production for the communities than currently exists. Based on the analysis in this document, water supply should be slightly less due to metering the EAPOA community and current water conservation trends. Future expansions of water supply within either community due to future growth will require future evaluations and are not considered under this proposed project.

XIXc. *Less Than Significant Impact* – The proposed project will not contribute to generation of wastewater. Future expansions of demand for wastewater treatment or conveyance within either

community due to future growth will require future evaluations and are not considered under this proposed project.

- XIXd. *Less Than Significant With Mitigation Incorporated* – The only solid waste generated by the proposed project will consist of demolition debris from EAPOA reservoirs, and site clearing debris from the well sites and pipeline alignments and a limited amount of municipal waste generated by employees. All construction waste that can be recycled will be by following this mitigation measures.

UTIL-1 During future demolition and clearing activities conducted by the Lamont PUD, the OUD shall require all construction waste that can be recycled shall be recycled. At a minimum recycled material shall mee the current State construction material recycling percentage. Documentation of waste recycled shall be required of the contractor, including locations where specific recycling materials were delivered.

The small amount of remaining waste will be delivered to regional landfills with adequate capacity for the small volume of waste associated with this proposed project. Solid waste impacts will be less than significant from project implementation after implementing this measure.

- XIXe. *Less Than Significant Impact* – Standard practice is to include a contract stipulation that a contractor obey all laws and regulations of the County, State and United States, and this includes solid waste laws and regulations. No potential conflict with such laws and regulations is anticipated from the waste disposal activities of this proposed project.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XX. WILDFIRE: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- XXa. *Less Than Significant With Mitigation Incorporated* – The proposed construction activities in road ROWs will be short term, but these activities can create hazards for motorists, bicyclists and pedestrians, particularly along Di Giorgio Road with pipeline installation. Thus, the project-related construction activities have a potential to conflict with continuous access. Mitigation measure **HAZ-2** will be implemented to ensure that hazards are minimize and emergency access is maintained to all parcels.
- XXb. *Less Than Significant Impact* – The proposed Project is not located in or near state responsibility areas or lands classified as very high fire hazard severity zone, therefore the proposed Project will have minimal impacts to any wildfire issues. The proposed Project is not located within the fire safety severity zone. The proposed Project area is located in a suburban and agricultural area removed from the high fire hazard areas that are located adjacent to Tehachapi Mountains to the east. As such, no significant impacts under these issues are anticipated.
- XXc. *No Impact* – Aside from the water infrastructure that will be installed in support of the proposed project with no significant adverse impacts identified, the proposed project will not install any special wildfire related facilities that could result in additional adverse ongoing impacts to the environment.
- XXd. *No Impact* – The project area is essentially flat and does not contribute to any significant risks associated with wildfire indirect effects on the environment where the project facilities are located. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XXI. MANDATORY FINDINGS OF SIGNIFICANCE:				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

The analysis in this Initial Study and the findings reached indicate that the proposed Project can be implemented without causing any new project specific or cumulatively considerable unavoidable significant adverse environmental impacts. Mitigation is required to control potential environmental impacts of the proposed Project to a less than significant impact level. The following findings are based on the detailed analysis of the Initial Study of all environmental topics and the implementation of the mitigation measures identified in the previous text and summarized following this section.

XXIa. *Less Than Significant With Mitigation Incorporated* – The biological and cultural technical reports (Appendices 4 and 5) indicate that no biological or cultural resources of significance occur within the project area of potential effect. However, contingency mitigation measures were identified to address the potential for encountering protected nesting birds and accidental exposure of subsurface cultural resources. With implementation of these measures, it was determined that the proposed project would not cause any unavoidable significant adverse impacts.

XXIb. *Less Than Significant Impact* – The proposed Project consists of installing water system infrastructure in the residential communities of Lamont and the El Adobe Property Owners Association (EAPOA). No unavoidable significant adverse impacts have been identified for those issues that have a potential for cumulative impact. These issues include: aesthetics, agricultural air quality, biology, cultural resources, energy, greenhouse gases, hydrology/water quality, land use, noise, population and housing, public services, recreation, traffic, tribal cultural resources, utilities and service systems, and wildfire. Of these issues, air quality, biology, cultural resources, greenhouse gases, hydrology/water quality, noise, traffic, utilities/service systems and wildfire require mitigation. All identified mitigation measures will be implemented by the proposed project. Most potential adverse environmental impacts will be experienced during construction to achieve the long-term goal of replacing water supply for the communities of Lamont and El Adobe. The potential cumulative environmental effects of implementing the proposed Project have been determined to be less than considerable and thus, less than significant impacts.

XXIc. *Less Than Significant With Mitigation Incorporated* – The proposed Project includes activities that have a potential to cause direct substantial adverse effects on humans. The issues of Air Quality, Geology and Soils, Hazards & Hazardous Materials, Hydrology, Noise, and Wildfire require the implementation of mitigation measures to reduce human impacts to a less than significant level. All other environmental issues were found to have no significant impacts on humans without implementation of mitigation. The potential for direct human effects from implementing the proposed Project have been determined to be less than significant.

Conclusion

This document evaluated all CEQA issues contained in the latest Initial Study Checklist form (2021). The evaluation determined that either no impact or less than significant impacts would be associated with the issues of Agriculture and Forestry Resources, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, and Wildfire. The issues of Air Quality, Biological Resources, Cultural Resources, Geology & Soils, Hazards & Hazardous Materials, Hydrology & Water Quality, Noise, and Transportation require the implementation of mitigation measures to reduce potential project specific and cumulative impacts to a less than significant level. The required mitigation has been proposed in this Initial Study to reduce impacts for these issues to a less than significant impact level.

Based on the evidence and findings in this Initial Study, the Lamont PUD proposes to adopt a Mitigated Negative Declaration for the Lamont Public Utilities District Water Supply Improvement Project. A Notice of Intent to Adopt a Mitigation Negative Declaration (NOI) will be issued for this Project by the Lamont Public Utilities District. The Initial Study and NOI will be circulated for 30 days of public comment. At the end of the 30-day review period, a final MND package will be prepared and it will be reviewed by the District for possible adoption at a future Board meeting, the date for which has yet to be determined. If you or your agency comments on the MND/NOI for this Project, you will be notified about the meeting date in accordance with the requirements in Section 21092.5 of CEQA (statute).

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino*, (1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors*, (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

Revised 2019

Authority: Public Resources Code sections 21083 and 21083.09

Reference: Public Resources Code sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3/ 21084.2 and 21084.3

SUMMARY OF MITIGATION MEASURES

Aesthetics

AES-1 Prior to initiating well drilling or approval of the final above ground facilities in close proximity to sensitive light receptors, an analysis of potential exterior lighting to impact the adjacent sensitive light receptors shall be submitted to the Lamont PUD for review and approval. If potential lighting impacts are identified for adjacent sensitive receptors the lighting shall be shielded or other design solutions acceptable to the PUD shall be implemented to eliminate adverse night lighting impacts.

Air Quality

AQ-1 Regulation VIII Control Measures for Construction Emissions of PM-10:

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/ suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
- With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.
- When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.)
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/ suppressant.
- Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.
- An owner/operator of any site with 150 or more vehicle trips per day, or 20 or more vehicle trips per day by vehicles with three or more axles shall implement measures to prevent carryout and trackout.

AQ-2 Recommended Enhanced Additional Measures for Construction Emissions of PM-10:

- Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the site.
- Install wind breaks at windward side(s) of construction areas.
- Suspend excavation and grading activity when winds exceed 20 mph.
- Limit area subject to excavation, grading, and other construction activity at any one time.

AQ-3 Recommended for Heavy Duty Equipment (scrapers, graders, trenchers, earth movers, etc.):

- Use alternative fueled or catalyst equipped diesel construction equipment.
- Minimize idling time (e.g., 5 minutes maximum).
- Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g., rescheduling activities to reduce short-term impacts).

Biological Resources

BIO-1 The State of California prohibits the “take” of active bird nests. To avoid impacts to nesting birds (common and special status) during the nesting season (generally between February 1 to August 31), a qualified Avian Biologist shall conduct pre-construction nesting bird survey prior to Project-related disturbance to identify any active nests. If no active nests are found, no further action would be required. If an active nest is found, the biologist shall set appropriate no-work buffers around the nest, which would be determined based on the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.

Cultural Resources

CUL-1 Should any subsurface or other cultural resources be encountered during construction of the proposed project, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate management measures within the guidelines of the California Environmental Quality Act. The recommendations shall be implemented by the District.

Geology and Soils

GEO-1 The construction contractor shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices that will prevent construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving offsite into receiving waters. The SWPPP may include but not be limited to the following BMPs.

- The length of trench which can be left open at any given time should be limited to that needed to reasonably perform construction activities. This will serve to reduce the amount of backfill stored onsite at any given time.
- Backfill material should not be stored in areas which are subject to the erosive flows of water.
- Stored backfill material should be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of stored backfill material. If covering is not feasible, then measures such as the use of straw bales, sandbags, silt fencing or detention/desilting basins shall be used to capture and hold eroded material on the project site for future cleanup.
- The SWPPP shall include a spill prevention and cleanup plan to account for the accidental release of petroleum products or other contaminants during construction activities. This plan shall identify the methods of containing spills, the methods of removing and disposing of spills and the notification procedures to the appropriate regulatory agencies with jurisdiction over such spills.
 - Apply erosion and sediment control design that reduce volume and velocity of flows and content of sediment to levels that do not cause significant rill or gully erosion in susceptible areas. In addition, provide for restoration of areas that do become eroded.
 - Add protective covering of mulch, straw or synthetic material (erosion control blankets, tacking will be required).

- Limit the amount of area disturbed and the length of time slopes and barren ground are left exposed. After pipeline installation, soil shall be compacted to a level similar to pre-construction conditions.
- Construct diversion dikes and interceptor ditches to divert water away from construction areas.

GEO-2 Prior to final design of any of the proposed project related water infrastructure, the design engineers shall provide an evaluation of the infrastructure's potential susceptibility to subsidence hazards. and identify specific measures to provide protection to incorporate into the design of the infrastructure if susceptible to damage from such subsidence hazards. The selected design measures shall be integrated into the design of wells, pipelines or other infrastructure constructed in support of the proposed project.

GEO-3 In the event that paleontological resources are encountered within the project area during construction activities, all land modification activities in the immediate area of the finds should be halted and an onsite inspection shall be performed immediately by a qualified paleontologist. This professional will be able to assess the find, determine its significance, and make recommendations for appropriate management actions. Reasonable paleontological resource management actions shall be implemented to protect the accidentally exposed subsurface resources.

Hazards and Hazardous Materials

HAZ-1 All spills or leakage of petroleum products during construction activities will be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste will be collected and disposed of at an appropriately licensed disposal or treatment facility. This measure will be incorporated into the SWPPP prepared for the Project development.

HAZ-2 During pipeline construction or any construction within road rights-of-way, the contractor shall maintain access to all parcels during construction activities. If necessary, this access can be accomplished by having steel sheets available to cover trenches in front of driveways or provide immediate, temporary access. Also, a traffic management plan shall be submitted and approved by the County to manage and minimize hazards to motorists, bicyclists, and pedestrians during construction.

Hydrology and Water Quality

HYD-1 Based on the groundwater quality identified during pre-production testing, the Lamont PUD may install a water treatment unit (such as Ion Exchange or Reverse Osmosis), to reduce concentrations below the MCL for the pertinent pollutant. The selected unit shall be installed, maintained and operated in a manner that will allow the potable water delivered to customers to meet all primary drinking water standards.

Noise

NOI-1 LPUD will require the implementation of adequate measures to reduce noise levels to the greatest extent feasible or below 65 dBA, including portable noise barriers or scheduling specific construction activities to avoid conflict with adjacent sensitive receptors.

NOI-2 LPUD will require that all construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by District personnel during construction activities.

NOI-3 LPUD will establish a noise complaint/response program and will respond to any noise complaints received for this project by measuring noise levels at the affected receptor. If the noise level exceeds an Ldn of 65 dBA exterior or an Ldn of 45 dBA interior at the receptor, the

applicant will implement adequate measures to reduce noise levels to the greatest extent feasible, including portable noise barriers, scheduling specific construction activities to avoid conflict with adjacent sensitive receptors, or relocation of sensitive receptors during high noise activities.

- NOI-4 All construction activities other than well drilling and casing landing shall be restricted to daylight hours, unless an emergency exists.
- NOI-5 LPUD shall will require that well pumps be installed underground, or that noise levels be at or below 50 dB(A) at the nearest sensitive noise receptor property boundary. Reductions of above ground pump noise can be accomplished by installing surface well housing, which can be a wooden or concrete block structure that attenuates noise to meet this performance standard.
- NOI-6 Upon request from adjacent residents, BBCCSD shall provide the option of relocating adjacent residents for the duration of active 24-hour drilling activity.
- NOI-7 Construction activities shall be limited to the hours of 7 a.m. to 6 p.m. on Monday through Friday, and between 9 a.m. to 6 p.m. on Saturday (except for well drilling activities), and shall be prohibited on Sundays and federal holidays except during documented emergencies. No construction may occur during hours of "Darkness" (Night Work), as defined in the California Vehicle Code, Section 280, unless prior authorization is obtained from the County.
- NOI-8 All employees that will be exposed to noise levels greater than 75 dB over an 8-hour period shall be provided with adequate hearing protection devices to ensure no hearing damage will result from construction activities.
- NOI-9 During future construction activities with heavy equipment within 300 feet of occupied residences, vibration field tests should be conducted at the nearest occupied structure. To the extent feasible, if vibrations exceed 72 VdB, the construction activities shall be revised to reduce vibration below this threshold.

Utilities and Service Systems

- UTIL-1 During future demolition and clearing activities conducted by the Lamont PUD, the OUD shall require all construction waste that can be recycled shall be recycled. At a minimum recycled material shall meet the current State construction material recycling percentage. Documentation of waste recycled shall be required of the contractor, including locations where specific recycling materials were delivered.

REFERENCES

CRM TECH, "Identification and Evaluation of Historic Properties, Lamont Public Utilities District, Water Supply Improvement Project, Kern County, California" dated February 14, 2022

Giroux & Associates, "Air Quality and GHG Impact Analyses, Lamont Public Utilities District Water Supply Improvement Project, Lamont, California" dated December 7, 2021

Jacobs, "2022 Biological Resources Assessment for the Lamont Public Utilities District, Water Supply Improvement Project" dated February 2, 2022

Dee Jasper & Associates, Inc., "*Hydrogeologic Study (Draft Report)*" dated June 15, 2020

Dee Jasper & Associates, Inc., "*MEMORANDUM – Lamont Public Utility District Water Supply Improvement Project*" dated December 11, 2020

Dee Jasper & Associates, Inc., "*Preliminary Engineering System Evaluation*" dated November 2019

Kern County General Plan, September 22, 2009

Revised Update of Kern County General Plan and Amendment of the Kern County and Incorporated Cities Integrated Waste Management Plan Siting Element, Recirculated Draft Program Environmental Impact Report (SCH#2002071027), January 2004

Websites:

<https://www.valleyair.org/aqinfo/attainment.htm>

<https://www.epa.gov/general-conformity/de-minimis-tables>

<https://www.cacities.org/UploadedFiles/LeagueInternet/1c/1c6e4716-42eb-4a2d-ac42-1353a6283a47.pdf>

FIGURES

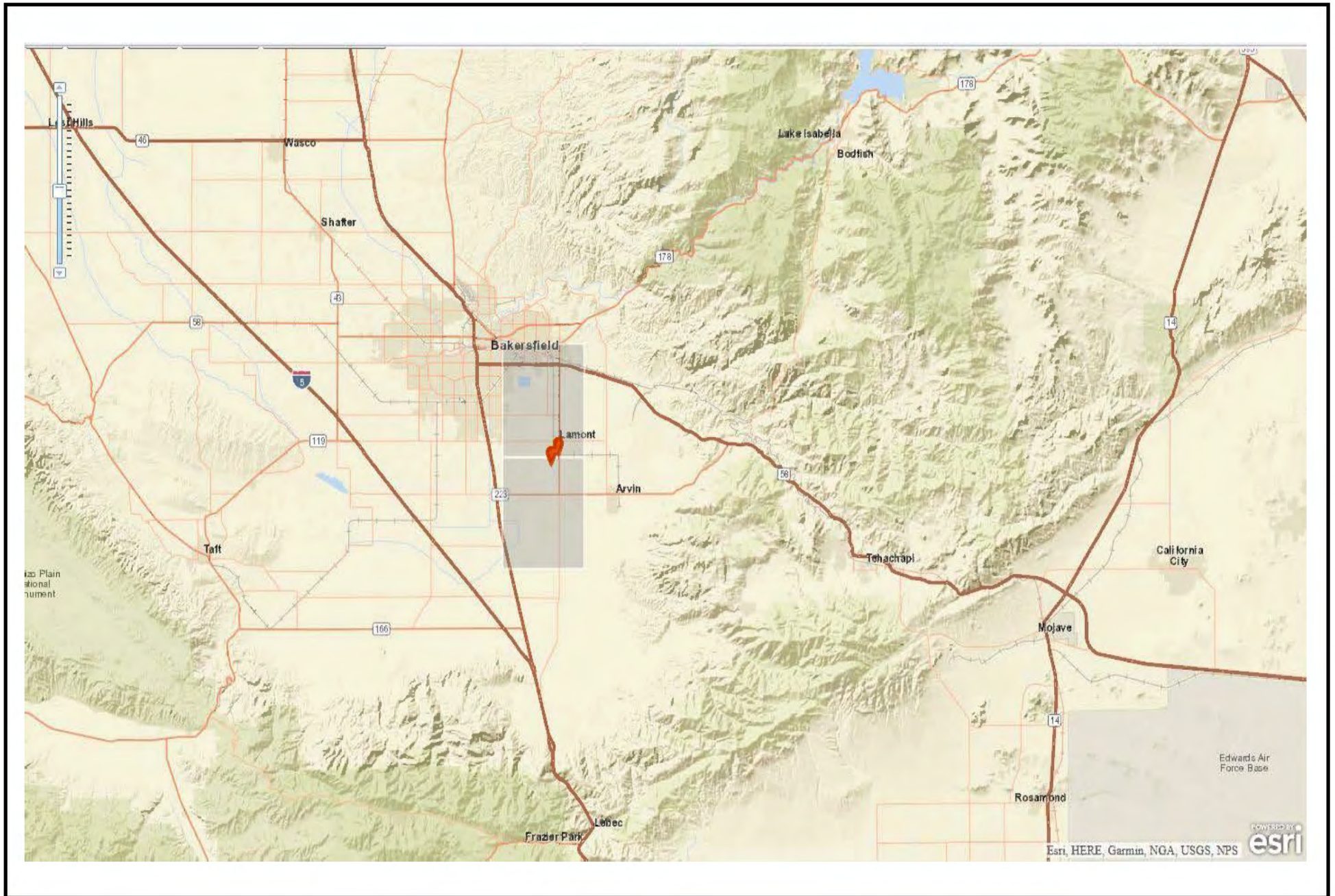
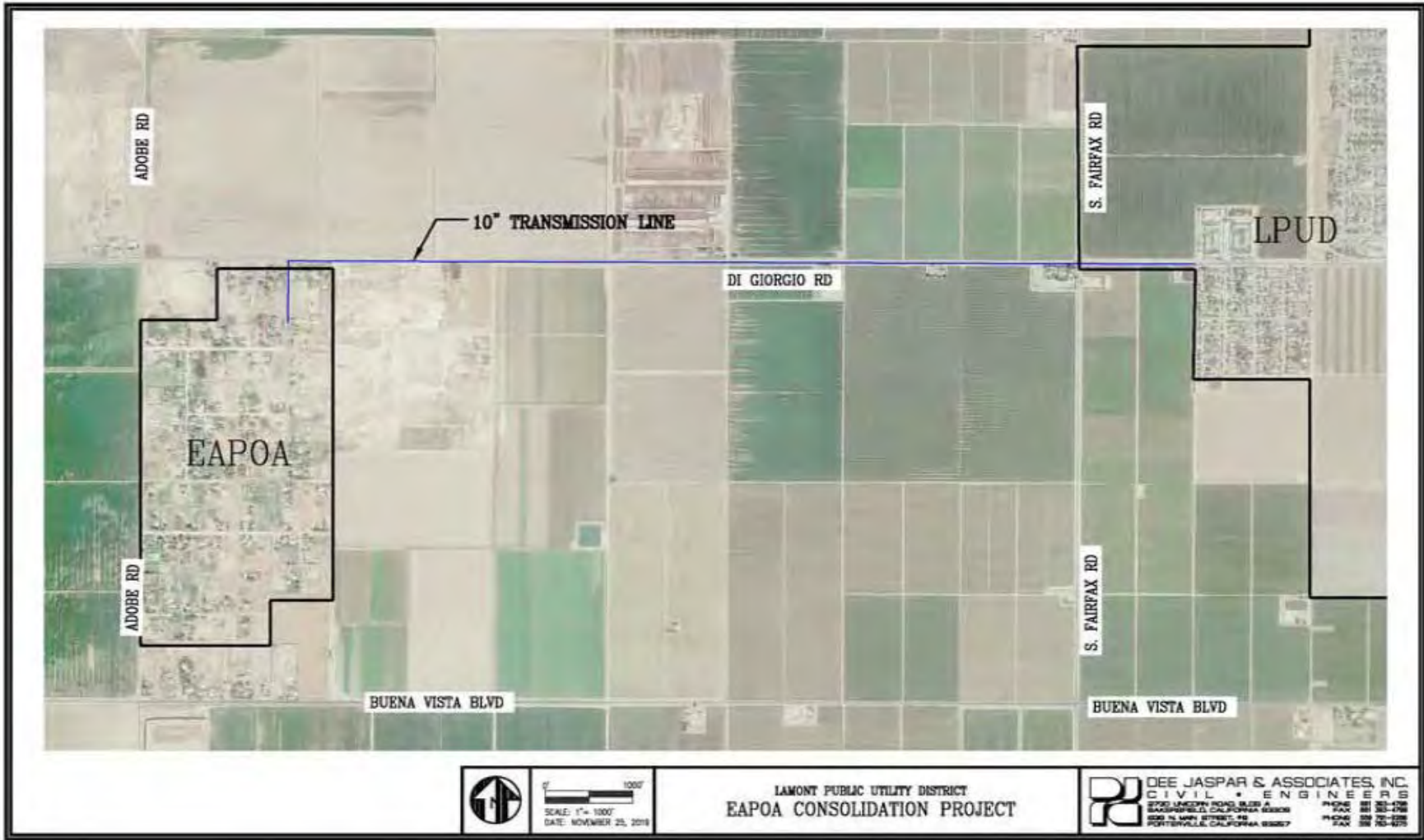


FIGURE 1

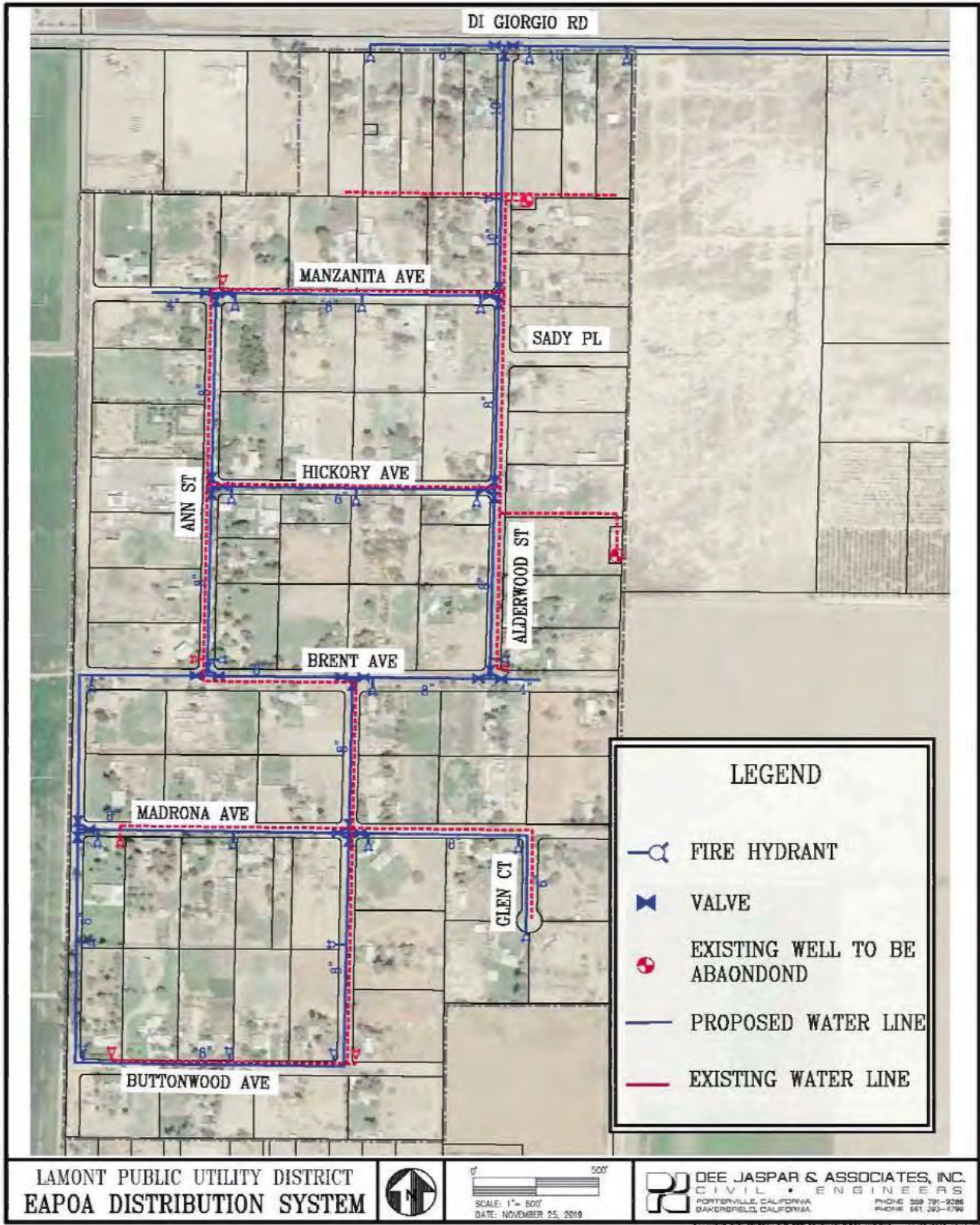


FIGURE 2



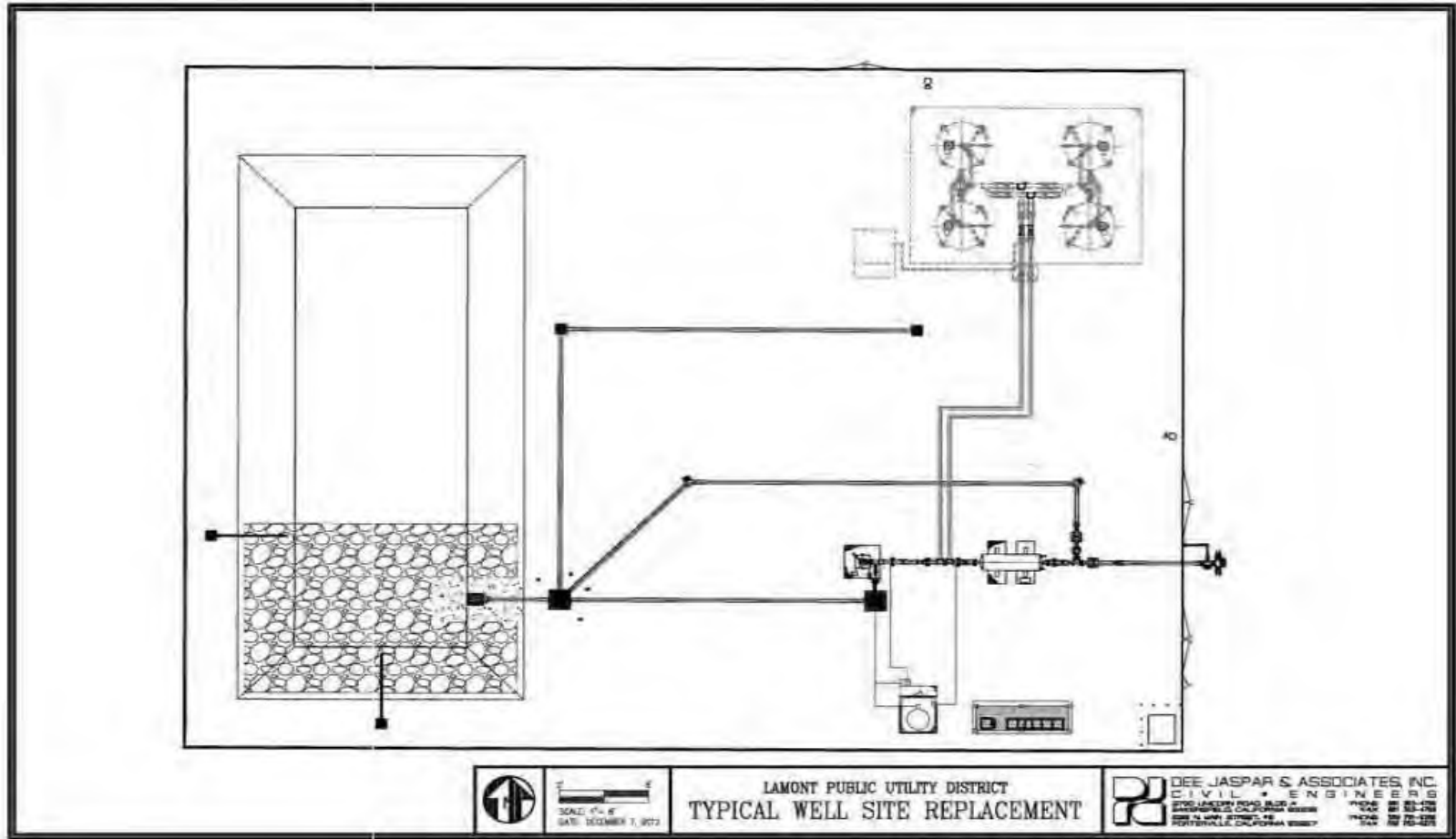
SOURCE: Dee Jasper & Associates, Inc., Lamont PUD Preliminary Engineering Report System Evaluation, November 2019

FIGURE 3



SOURCE: Dee Jasper & Associates, Inc., Lamont PUD Preliminary Engineering Report System Evaluation, November 2019

FIGURE 4



SOURCE: Dee Jasper & Associates, Inc., Lamont PUD Preliminary Engineering Report System Evaluation, November 2019

FIGURE 5

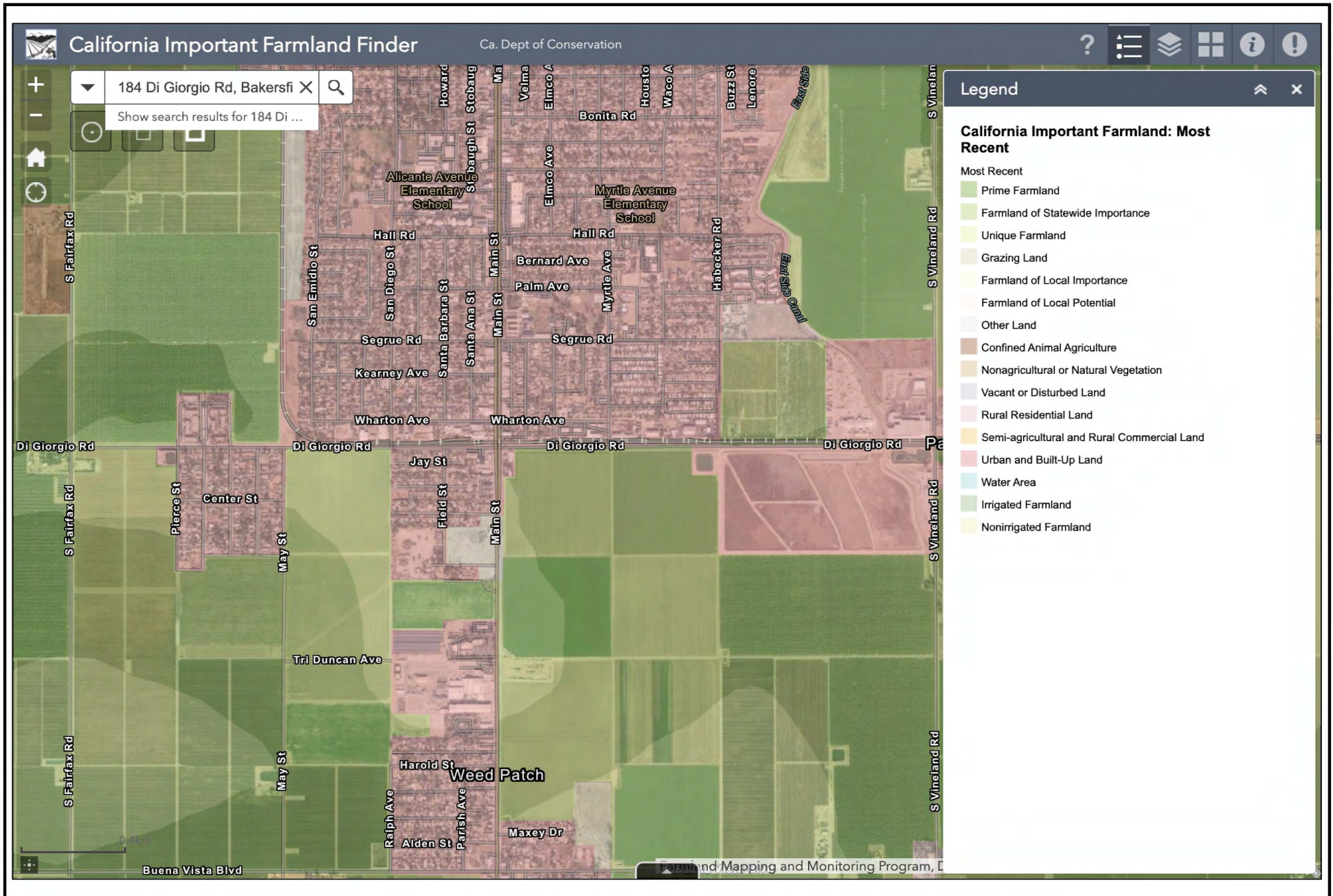
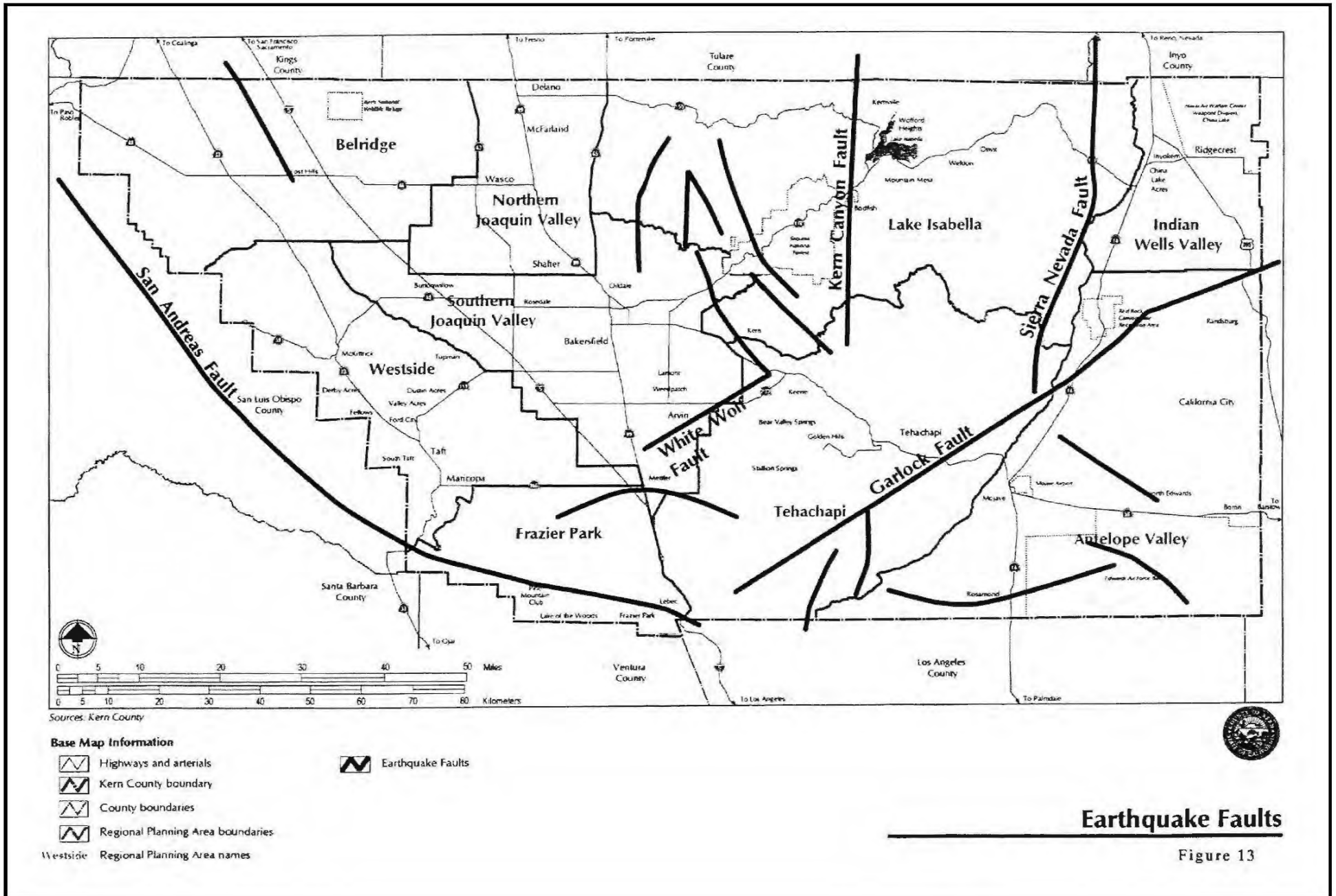


FIGURE II-1

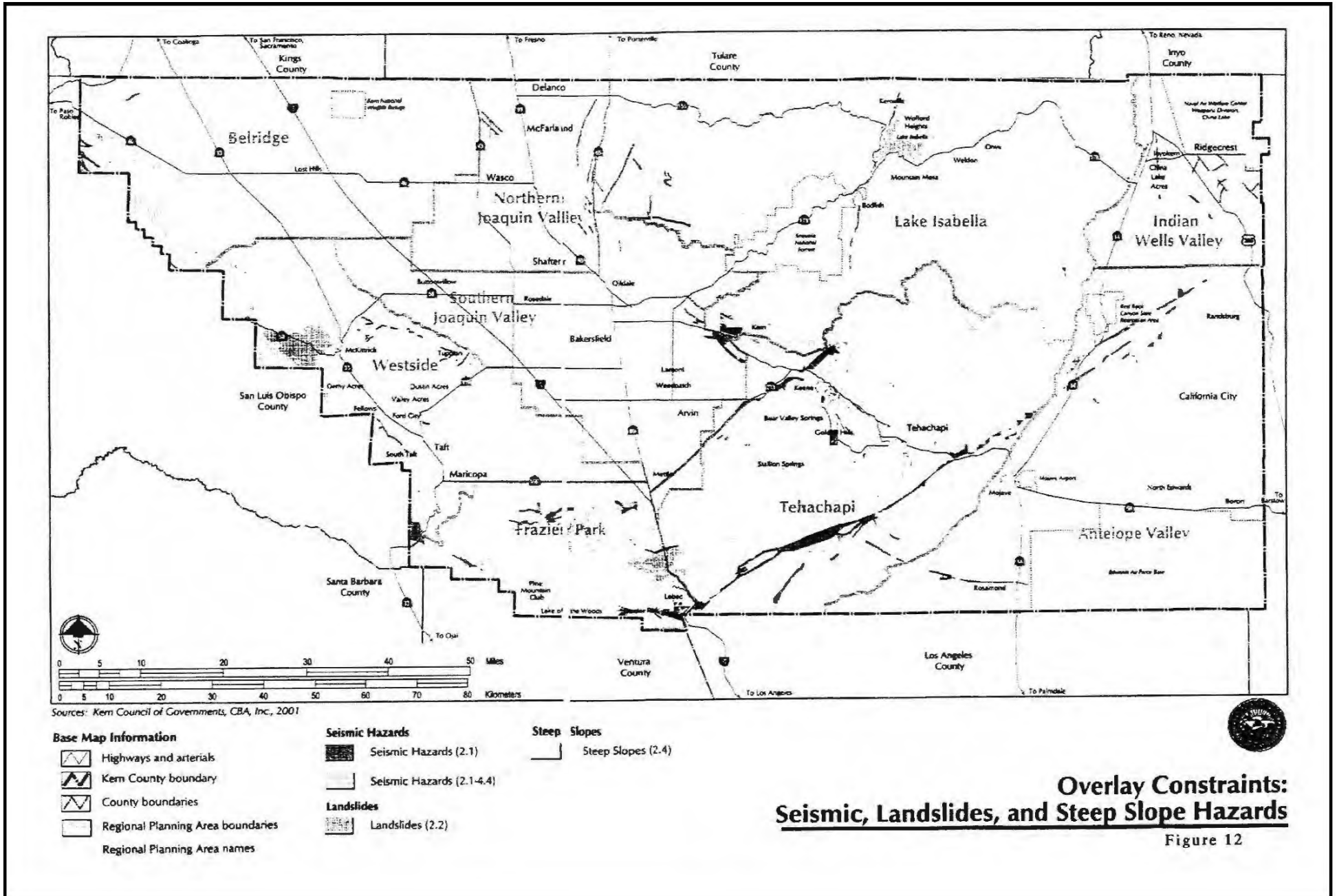


SOURCE: Kern County General Plan, Figure 13

FIGURE VII-1

Tom Dodson & Associates
Environmental Consultants

Earthquake Faults

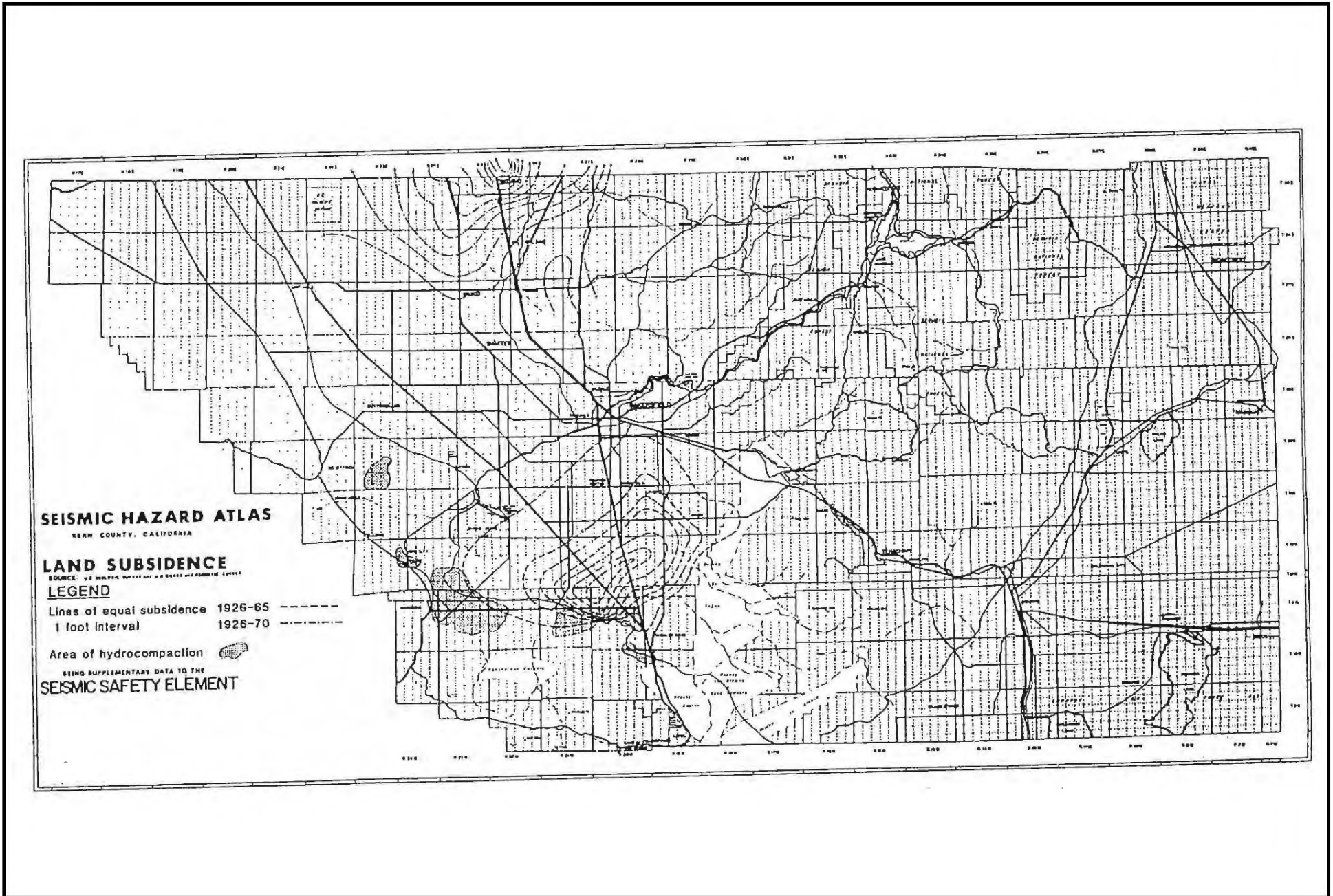


SOURCE: Kern County General Plan, Figure 12

FIGURE VII-2

Tom Dodson & Associates
Environmental Consultants

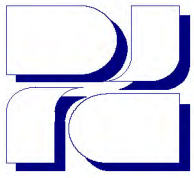
Overlay Constraints



SOURCE: Kern County General Plan, Figure 15

FIGURE VII-3

APPENDIX 1



DEE JASPAR & ASSOCIATES, INC.

CONSULTING CIVIL ENGINEERS

2730 UNICORN ROAD, BLDG A

BAKERSFIELD, CA 93308

PHONE (661) 393-4796

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MEMORANDUM

DATE: December 11, 2020

TO: Scott Taylor, General Manager

FROM: Curtis Skaggs, P.E.

PROJECT: Lamont Public Utility District
Water Supply Improvement Project

SUBJECT: Well Site Locations

I. Introduction

The Lamont Public Utility District (District) “Preliminary Engineering Report – System Evaluation” was completed in November 2019 and recommended that four new replacement wells be drilled for Wells 5, 11, 12, and 13. The wells would be drilled to avoid Arsenic and 1,2,3-TCP, if possible. In addition, the project would include the consolidation of El Adobe Property Owner’s Associates (EAPOA) with the District.

A hydrogeologic study was then prepared in June 2020 that concluded that there is an intermediate strata between approximately a 480-ft depth and a 720-ft depth that may yield water quality that doesn’t require treatment. Test wells will need to be completed to confirm this, however the District will need to proceed with acquiring well sites before test wells can be constructed. It is recommended that test well agreements and right to purchase agreements be developed that will give the District access to the properties to drill test wells and evaluate the water quality with depth while also putting the conditions in place for the District to purchase the property if the test well is successful.

This memorandum serves to evaluate potential well site properties based on:

1. Location
2. Ownership/Zoning
3. Size/Configuration
4. Proximity to Residential
5. Proximity to Existing Water Mains
6. Proximity to Potential Hazards
7. Hydraulic Impacts

The properties evaluated include the following twenty sites and each are discussed in greater detail herein:

1. APN 178-282-25 – NW Corner Habecker Rd & Panama Rd
2. APN 178-282-26 – SW Cor Habecker Rd & Collison St
3. APN 174-160-23 – Panama Rd near Gilbert St
4. APN 186-080-04 – Hall Rd near San Fernando St
5. APN 186-080-05 – NW Cor San Diego St & Hall Rd
6. APN 188-290-32 – SE Cor Main St & Maxey Dr
7. APN 187-102-33 – SW Cor Main St & Whitlock Ln
8. APN 187-102-35 – NE Cor Parish Ave & Buena Vista Blvd
9. APN 188-280-02 – SE of Main St & Tri Duncan Ave
10. APN 188-280-05 – North of Buena Vista Blvd & East of Main St
11. APN 187-080-25 – SE Cor May St & Tri Duncan Ave
12. APN 187-030-41 – SW Cor Main St & Hickory Ln
13. APN 187-030-36 – Tri Duncan Avenue
14. APN 187-030-04 – SE Cor DiGiorgio Rd & May St.
15. APN 188-270-06 – Weedpatch Hwy
16. APN 188-270-18 – SE Cor DiGiorgio Rd & Weedpatch Hwy
17. APN 188-270-19 – DiGiorgio Rd
18. APN 188-250-12 – NE Cor DiGiorgio Rd & Habecker Rd
19. APN 188-250-30 – Habecker Rd
20. APN 174-230-06 – NW Cor Main St & Mountain View Rd

II. Executive Summary

Below is a summary of the well site evaluations. The well sites have been grouped by their proximity to the existing wells in an effort to align those sites with the wells they would in essence be replacing. Each well then has its advantages or its disadvantages outlined, if applicable.

Lamont Public Utility District					
Well Site Evaluation Summary					
Well Site Evaluation No.	Location	APN	Potential Well Replacement	Advantages	Disadvantages
1	SW Cor Main St & Whitlock Ln	187-102-33	Well No. 5	-Directly across the street from Well 5	
2	SE Cor Main St & Mavey Dr	188-290-32		-Property is currently for sale	
3	NE Cor Parish Ave & Buena Vista Blvd	187-102-35		-Property would require minimal underground piping	
4	SE Cor May St & Tri Duncan Ave	187-080-25		-Property is adjacent to Well 5	
5	North of Buena Vista Blvd & East of Main St	188-280-05		-Large property in good location	
6	SE of Main St & Tri Duncan Ave	188-280-02		-Property is nearby Well 5	
7	SE Cor DiGiorgio Rd & May St	187-030-04	Well No. 11	-Large property	-Close to an existing ag well. Requires main line extension.
8	SW Cor Main St & Hickory Ln	187-030-41		-Property owner willing to sell	
9	Tri Duncan Avenue	187-030-36		-Large property	-Requires main line extension
10	SE DiGiorgio Rd & Weedpatch Hwy	188-270-18		-Large property	-Requires main line extension
11	Weedpatch Hwy	188-270-06		-Large property	-Requires main line extension
12	DiGiorgio Rd	188-270-19		-Large property	-Requires main line extension
13	NE Cor DiGiorgio Rd & Habecker Rd	188-250-12		-Large property	-Requires main line extension
14	Habecker Rd	188-250-30		-Large property	
15	NW Corner Habecker Rd & Panama Rd	178-282-25		-Large property planned for a school	-In 100 year flood plain
16	SW Corner Habecker Rd & Collision St	178-282-26		-Large property	-In 100 year flood plain
17	NW Corner Main St & Mountain View Rd	174-230-06	Well No. 12	-Property in close proximity to existing Well 12	-In 100 year flood plain
18	Panama Rd near Gilbert St	174-160-23		-Large property	
19	NW Cor San Diego St & Hall Rd	186-080-05	Well No. 13	-Large property currently be designed for development	-In 100 year flood plain
20	Hall Rd near San Fernando St	186-080-04		-Property across street from Well 13	-In 100 year flood plain
				-Property owner willing to sell	-Residential homes adjacent to west.
Properties currently being pursued by the District.					

Figure 1: Well Site Location Evaluation Summary

It appears that the best well site to replace Well No. 5 would be the site located at the southeast corner of Main Street and Maxey Drive (APN 188-290-32) or the site located at the southwest corner of Main Street and Whitlock Lane (APN 187-102-33) since they are vacant lots close to the existing site and infrastructure. However, the lot across the street from Well No. 5 at Main Street and Whitlock Lane is currently for sale and the District is pursuing that negotiation.

The best well site to replace Well No. 11 would be the site located at the southeast corner of DiGiorgio Road and May Street (APN 187-030-04). This is a large property that is in close proximity to the existing Well No. 11 site and is close to existing District infrastructure. The property size will allow the District to carve out a 1.0-acre well site that is far enough away from existing wells to prevent negative influence. The District is already in conversations with the property owner to obtain a 1.0-acre well site in the northeast corner of the property.

The best well site to replace Well No. 12 would be the site located at the northwest corner of Main Street and Mountain View Road (APN 174-230-06) or one of the parcels near Habecker Road between Panama Road and Collison Street (APN's 178-282-25 and 26).

The best well site to replace Well No. 13 would be the site located at the northwest corner of San Diego Street and Hall Road (APN 186-080-05). This is a large site, 1.60 acres, directly across the street from the existing Well No. 13 site and the property owner is willing to sell. The District has agreed to the purchase of this property with the property owner.

However, it is not absolutely necessary that the wells be in close proximity to an existing well in order to replace it. Furthermore, it is understood that the District may not be able to purchase certain properties or reach agreement on them. Therefore, the subject properties discussed herein have been ranked in order of the most desirable sites down to the least desirable sites. Therefore, the first four listed well sites are the preferred properties to acquire, but if a property isn't able to be procured by the District then the next property on the list may be pursued.

Property Listing – Order of Priority

1. APN 186-080-05 – NW Cor San Diego St & Hall Rd
2. APN 187-030-04 – NW Cor of Ralph Avenue (Future) & DiGiorgio Road
3. APN 187-102-33 – SW Cor Main St & Whitlock Ln
4. APN 174-230-06 – NW Cor Main St & Mountain View Rd

The first four wells are preferred because of their size, configuration, and location.

The locations listed below are the remaining sites prioritized in the order of the most desirable. The site number five assumes that the number three property noted above cannot be obtained. The priority numbers following that assume the first three

properties are able to be procured by the District and thus focuses on well sites to replace Well No. 12.

5. APN 188-290-32 – Main St & Maxey Dr Owned by Alejandro Guzman
6. APN 178-282-25 – Habecker Rd & Panama Owned by Lamont School District
7. APN 178-282-26 – Habecker Rd & Collison Owned by Guimarra Bros
8. APN 174-160-23 – Panama Rd & Gilbert Owned by Lamont Shopping Center
9. APN 188-270-19 – DiGiorgio Rd Owned by Schweissinger Trust
10. APN 188-270-18 – DiGiorgio Rd & Main Owned by Schweissinger Trust
11. APN 188-270-06 – Main St Owned by Schweissinger Trust
12. APN 188-250-12 – DiGiorgio & Habecker Owned by Daniel Martin
13. APN 188-250-30 – Habecker Rd Owned by Juan Villasenor
14. APN 187-030-41 – Main St & Hickory Owned by Kim Family Trust
15. APN 187-030-36 – Tri Duncan Ave Owned by Crystal Organic Farms
16. APN 187-102-35 – Buena Vista & Parish Owned by Jassar Sikander
17. APN 187-080-25 – Tri Duncan & May Owned by Crystal Organic Farms
18. APN 188-280-05 – Buena Vista Blvd Owned by Crystal Organic Farms
19. APN 188-280-02 – Main St Owned by Crystal Organic Farms
20. APN 186-080-04 – Hall Rd & San Fernando Owned by Karen Reed

The property detail reports for each property are attached in Appendix A. Figure 2 below illustrates the locations of the twenty well site properties noted above. An 11x17 map of the well site locations is also attached in Appendix B.

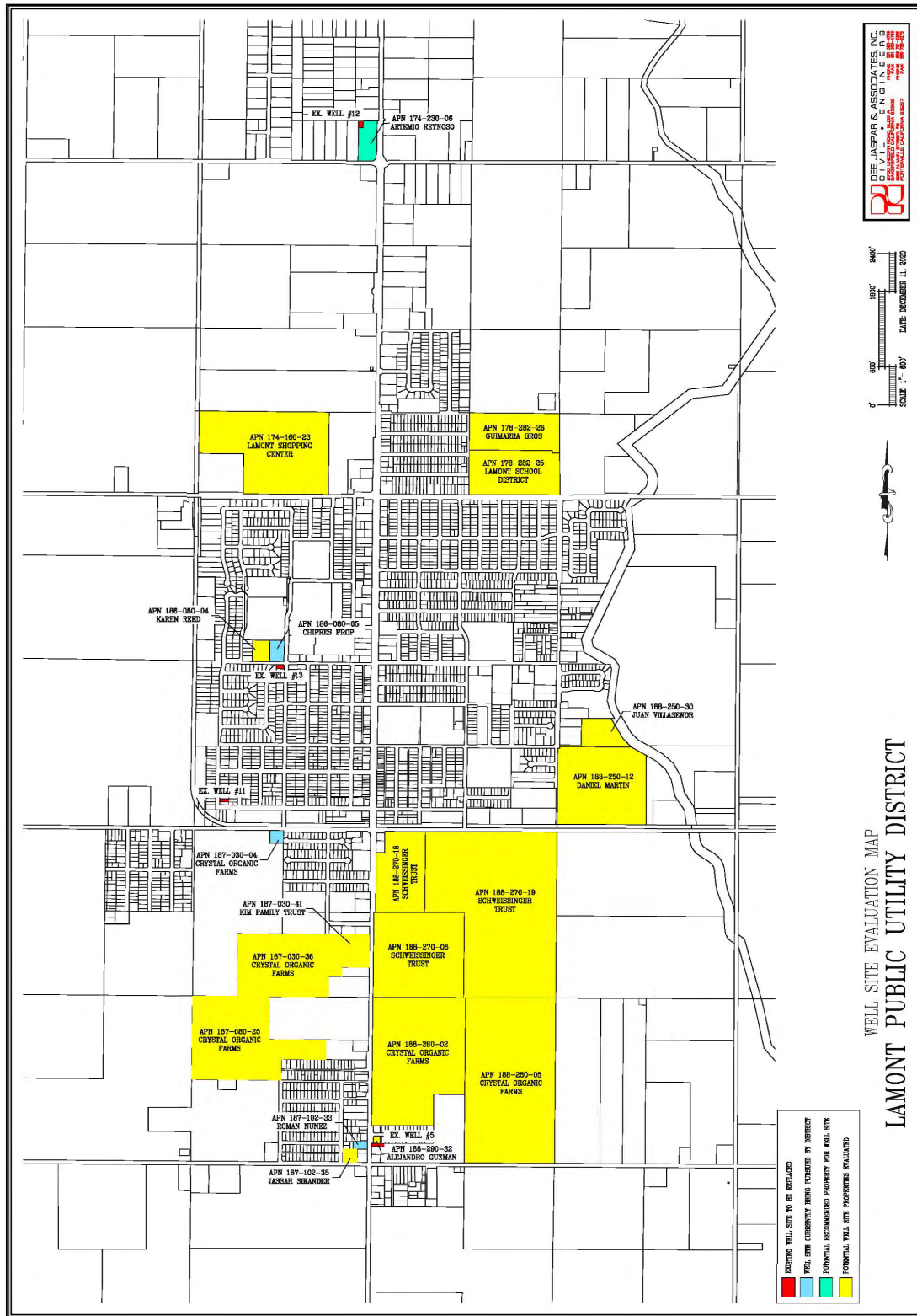


Figure 2: Potential Well Site Location Map

SGMA may make it more challenging in the future to drill and develop new groundwater supply sources, however it is difficult to predict what those challenges and roadblocks will be. The District does supply drinking water to the community of Lamont and the State of California recognizes that “every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes”. Therefore, it is anticipated that the District will be allowed to drill new wells as necessary to provide water to the community. In addition, these four new wells are being drilled to replace existing capacity, therefore these wells are not being drilled to increase supply necessarily.

III. Property Details

1. APN 186-080-05 – Hall Rd and San Diego Street

This property is located on the north side of Hall Rd and the west side of San Diego Street, see Figure 3.



Figure 3: APN 186-080-05

The property is approximately 1.6 acres and is located in Section 1, T31S, R28E, M.D.B.&M. The property is owned by Chipres Prop, LLC in Lamont, Ca. and is zoned R-2 for medium density residential. The property owner is willing to sell and has recently reached a sale agreement with the District.

A 1.6 acre well site will accommodate a new well and potential treatment system or storage tank as necessary.

The property has residential homes across the street to the south and residential homes across the street to the east. It is anticipated that during well drilling activity, noise barrier walls would be required on the south, east, and west sides of the site.

There is an existing twelve-inch (12”) water main on the east side of San Diego Street and also on the south side of Hall Road.

The known hazards in the area of the property include:

- The well site is within the 100 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site will replace Well 13 as Well No. 13 is approximately 400-feet to the southeast of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

2. APN 187-030-04 – SE Corner of DiGiorgio Road and May Street

This property is located on the southeast corner of DiGiorgio Road and May Street as illustrated in Figure 4 below.



Figure 4: APN 187-030-04

The property is approximately 64.09 acres and is located in Section 12, T31S, R28E, M.D.B.&M. The property is owned by Crystal Organic Farms, LLC. in Bakersfield, Ca. and is zoned A for exclusive agriculture. The District has been in contact with the property owner and they are amenable to selling a 1.0-acre well site in the northeast corner of the property.

An approximate 1.0 acre well site will accommodate a new well and potential treatment system.

The property has residential properties to the north, east, and west. It is anticipated that during well drilling activity, noise barrier walls would be required on the north, east, and west sides of the site depending on where the well site actually ends up.

There is an existing eight-inch (8”) water main in DiGiorgio Road and to the east in Jay Street. There would likely need to be two connection points from the well to the distribution system.

The known hazards in the area of the property include:

- The well site is within the 500 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site will replace Well 11 as Well No. 11 is just north of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

3. APN 107-102-33 – Weedpatch Hwy

This property is located on the west side of Weedpatch Highway and north of Buena Vista Boulevard see Figure 5.

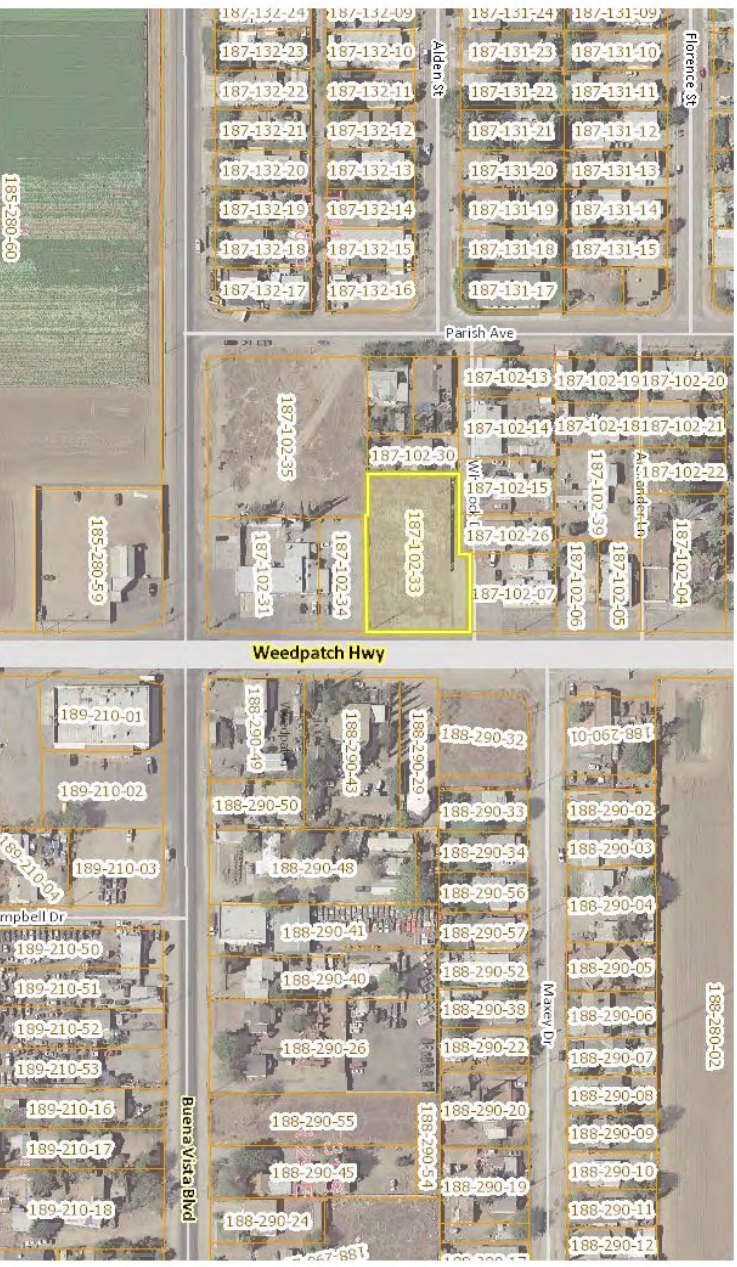


Figure 5: APN 187-102-33

The property is approximately 0.59 acres and is located in Section 12, T31S, R28E, M.D.B.&M. The property is owned by Roman Ramirez Nunez and Aide Nunez in Arvin, Ca. and is zoned CH for highway commercial. In addition, the property is currently listed for sale. The District is pursuing conversations with the property owner.

An approximate 0.59 acre well site would accommodate a new well and potential treatment system or storage tank, if necessary.

The property has residential homes to the north and west of the site. It is anticipated that during well drilling activity, noise barrier walls would be required on the south, north, and west sides of the site.

There is an existing six-inch (6”) water main in Whitlock Drive and also an existing twelve-inch (12”) water main on the east side of Weedpatch Highway.

The known hazards in the area of the property include:

- The well site is within the 500 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.

- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well 5 as Well No. 5 is approximately 200-feet to the east of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

4. APN 174-230-06 – NW Cor Main Street & Mountain View Road

This property is located on Mountain View Road west of Main Street as shown in Figure 6.



Figure 6: APN 174-230-06

The property is approximately 3.94 acres and is located in Section 25, T30S, R28E, M.D.B.&M. The property is owned by Artemio and Maria Reynoso and is zoned E (2-1/2) RS for 2.5 acre estate residential.

An approximate 0.50 acre to 1.0 acre well site would accommodate a new well and potential treatment system or storage tank, if necessary.

The property has residential homes to the north, but is large enough where a well site could be located further away from the residences. It is anticipated that during well drilling activity, noise barrier walls would be required on the north and west sides of the site.

There is an existing twelve-inch (12”) water main in Mountain View Road and in Main Street just east of the proposed property.

The known hazards in the area of the property include:

- The well site is within the 100 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well No. 12 as it is northwest of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

5. APN 188-290-32 – SE Cor of Maxey Drive and Weedpatch Hwy

This property is located on the southeast corner of Maxey Drive and Weedpatch Highway see Figure 7.



Figure 7: APN 188-290-32

The property is approximately 0.27 acres and is located in Section 7, T31S, R29E, M.D.B.&M. The property is owned by Alejandro and Maria Guzman in Lawndale, Ca. and is zoned CH for highway commercial.

An approximate 0.27 acre well site would accommodate a new well and potential treatment system since it is adjacent to the existing Well No. 5 and that property could be utilized as well.

The property has residential homes across the street to the north and also to the east of the site. It is anticipated that during well drilling activity, noise barrier walls would be required on the north, east, and south sides of the site.

There is an existing twelve-inch (12”) water main adjacent to the site on the east side of Weedpatch Highway.

The known hazards in the area of the property include:

- The well site is within the 500 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well 5 as Well No. 5 is approximately 100-feet to the south of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

6. APN 178-282-25 – NE Cor of Panama Rd and Carnation Ave

This property is located on Panama Road east of Carnation Avenue as shown in Figure 8.



Figure 8: APN 178-282-25

The property is approximately 21.53 acres and is located in Section 31, T30S, R29E, M.D.B.&M. The property is owned by the Lamont School District and is zoned A for exclusive agriculture.

An approximate 0.50 acre to 1.0 acre well site would accommodate a new well and potential treatment system or storage tank, if necessary.

The property has residential homes across the street on the south and across the street to the west, but the property is large enough where a well site could be located further away from the residences. It is anticipated that during well drilling activity, noise barrier walls would be required on the south and west sides of the site.

There is an existing ten-inch (10”) water main on the south side of Panama Road and across the street on Carnation Avenue.

The known hazards in the area of the property include:

- The well site is within the 100 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.

- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well No. 12 as Well No. 12 is approximately 6,000-feet to the northwest of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

7. APN 178-282-26 – SE Cor Collison Street and Carnation Avenue

This property is located on the southeast corner of Collison Street and Carnation Avenue as shown in Figure 9.



Figure 9: APN 178-282-26

The property is approximately 17.56 acres and is located in Section 31, T30S, R29E, M.D.B.&M. The property is owned by the Giumarra Bros Fruit, LLC. and is zoned A for exclusive agriculture.

An approximate 0.50 acre to 1.0 acre well site would accommodate a new well and potential treatment system or storage tank, if necessary.

The property has residential homes across the street to the west, but the property is large enough where a well site could be located further away from the residences. It is anticipated that during well drilling activity, noise barrier walls would be required on the south and west sides of the site.

There is an existing ten-inch (10”) water main on the west side of Carnation Avenue.

The known hazards in the area of the property include:

- The well site is within the 100 year flood plain.

- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well No. 12 as Well No. 12 is approximately 5,500-feet to the northwest of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

8. APN 174-160-23 – Panama Rd and Gilbert St

This property is located on Panama Road west of Main Street as shown in Figure 10.

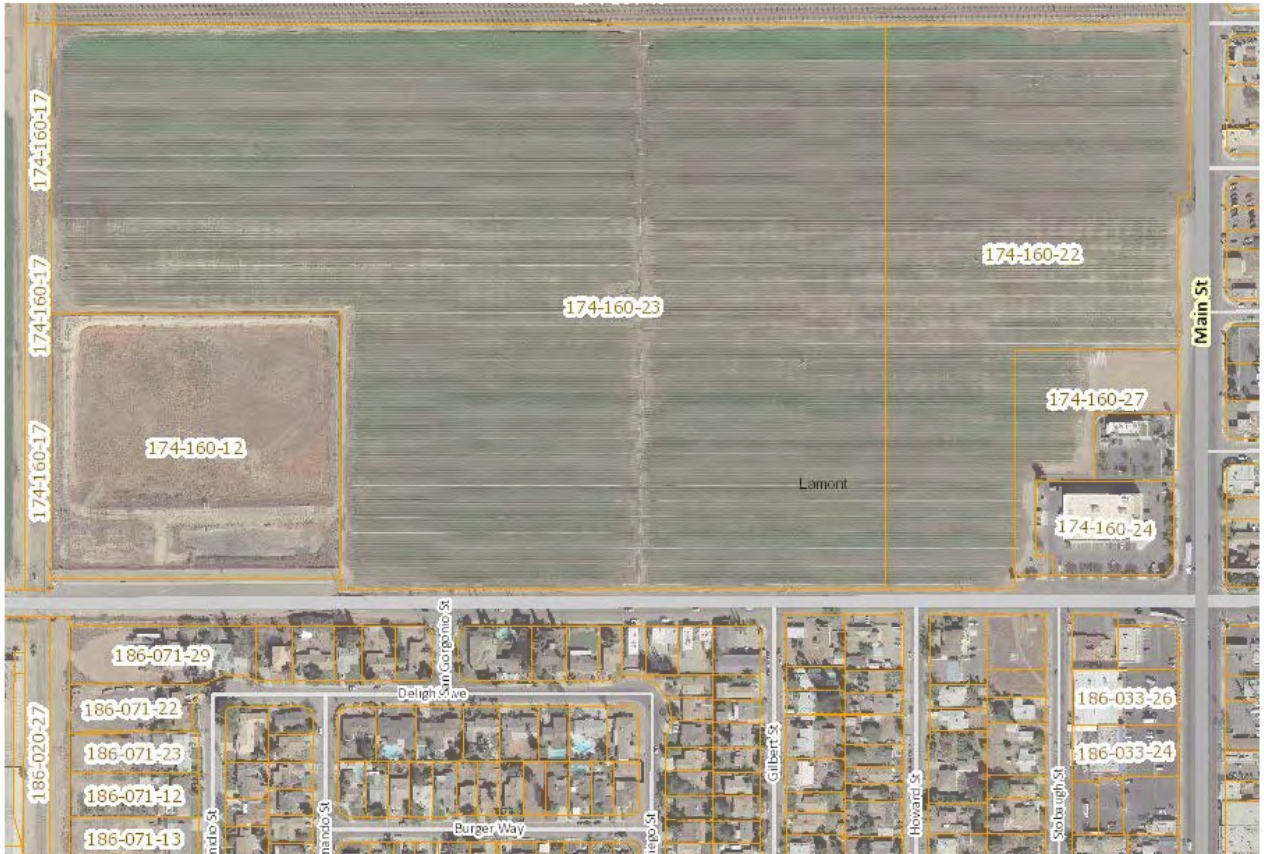


Figure 10: APN 174-160-23

The property is approximately 46.53 acres and is located in Section 36, T30S, R28E, M.D.B.&M. The property is owned by the Lamont Shopping Center, LLC. and is zoned A for exclusive agriculture.

An approximate 0.50 acre to 1.0 acre well site would accommodate a new well and potential treatment system or storage tank, if necessary.

The property has residential homes across the street on the south, but is large enough where a well site could be located further away from the residences. In addition, there is commercial development to the east of the property. It is anticipated that during well drilling activity, noise barrier walls would be required on the south and east sides of the site.

There is an existing six-inch (6”) water main on the south side of Panama Road and there is an eight-inch (8”) connection point stubbed across Panama Road just east of the proposed property.

The known hazards in the area of the property include:

- The well site is within the 100 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well No. 12 as Well No. 12 is approximately 5,800-feet to the northeast of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

9. APN 188-270-19 –DiGiorgio Road

This property is located to the east of Weedpatch Highway and on the south side of DiGiorgio Road as illustrated in Figure 11 below.

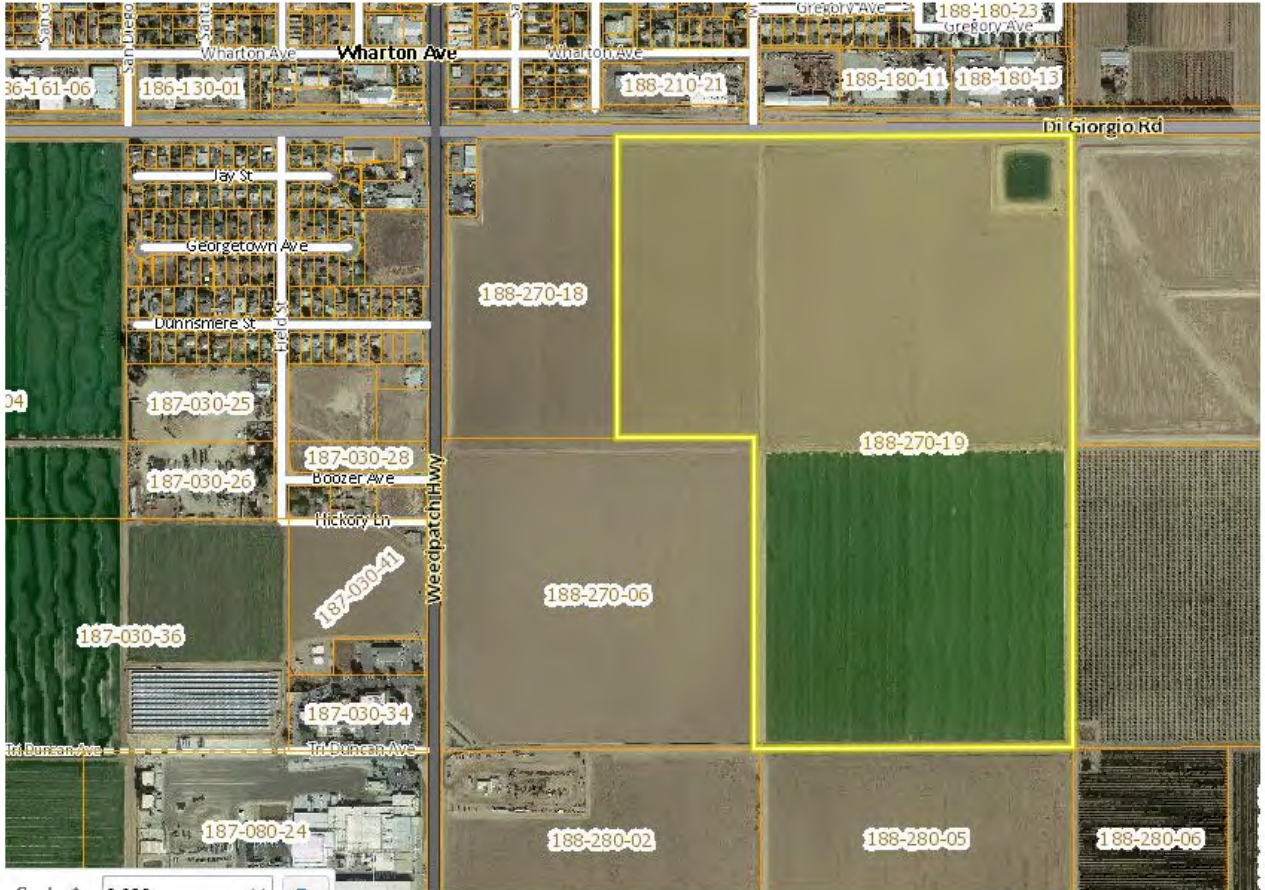


Figure 11: APN 188-270-19

The property is approximately 99.8 acres and is located in Section 7, T31S, R29E, M.D.B.&M. The property is owned by the Schweissinger Trust in San Jose, Ca. and is zoned A for exclusive agriculture.

An approximate 0.5 to 1.0 acre well site would accommodate a new well and potential treatment system.

The property has industrial properties across the street to the north. It is anticipated that during well drilling activity, noise barrier walls would be required on the north side of the site depending on where the well site actually ends up.

There is an existing twelve-inch (12”) water main to the east in Habecker Road on the northerly side of DiGiorgio Road. A twelve-inch (12”) mainline extension would be necessary to connect the well to the distribution system.

The known hazards in the area of the property include:

- The well site is within the 500 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well 5 or Well 11. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

10. APN 188-270-18 – SE Corner of DiGiorgio Road and Weedpatch Hwy

This property is located on the east side of Weedpatch Highway and the south side of DiGiorgio Road as illustrated in Figure 12 below.

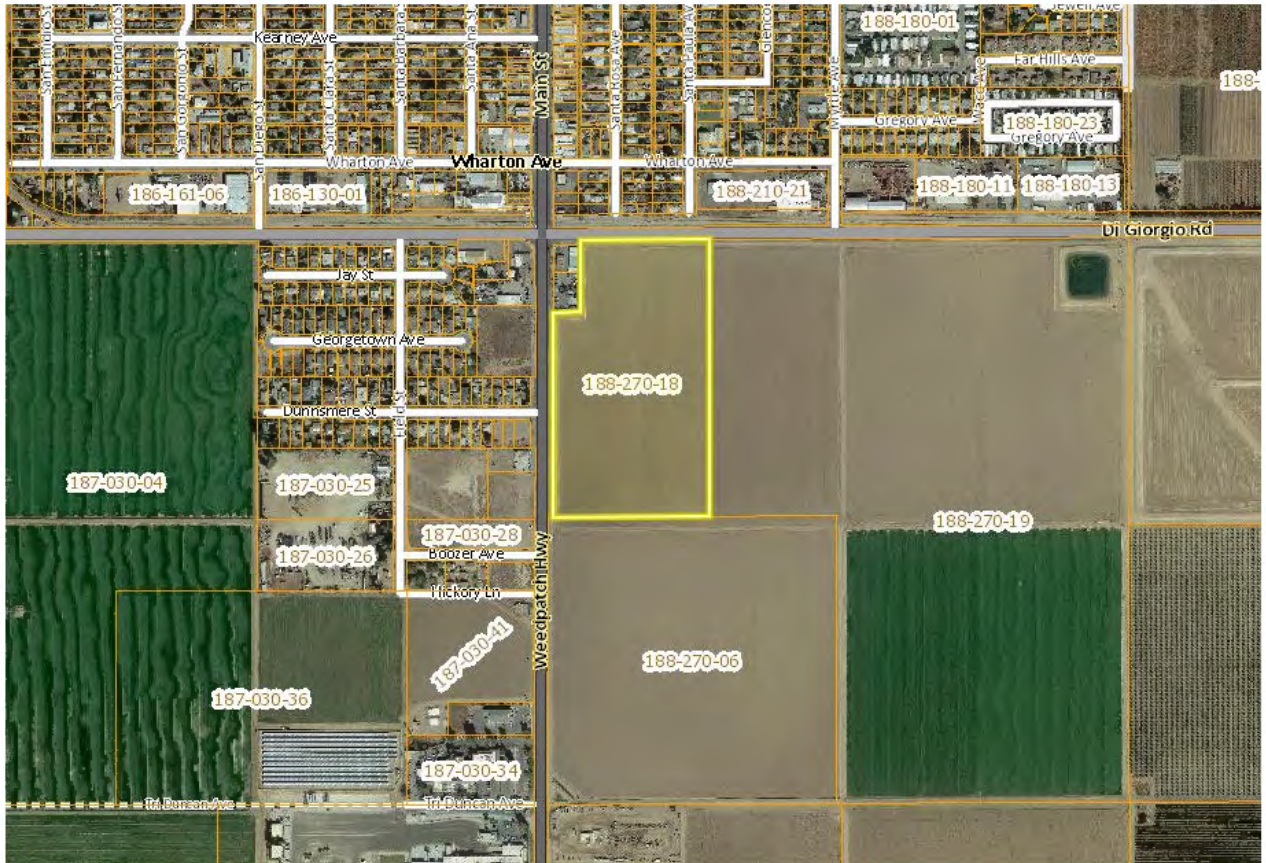


Figure 12: APN 188-270-18

The property is approximately 20.6 acres and is located in Section 7, T31S, R29E, M.D.B.&M. The property is owned by the Schweissinger Trust in San Jose, Ca. and is zoned A for exclusive agriculture.

An approximate 0.5 to 1.0 acre well site would accommodate a new well and potential treatment system.

The property has residential properties to the north and west. It is anticipated that during well drilling activity, noise barrier walls would be required on the north and sides of the site depending on where the well site actually ends up.

There is an existing six-inch (6") water main to the west in Weedpatch Highway. A twelve-inch (12") mainline extension would be necessary to connect the well to the distribution system.

The known hazards in the area of the property include:

- The well site is within the 500 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well 11 as it is about 2,700-ft northwest of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

11. APN 188-270-06 – Weedpatch Highway

This property is located on the east side of Weedpatch Highway in between DiGiorgio Road and Tri Duncan Avenue as illustrated in Figure 13 below.

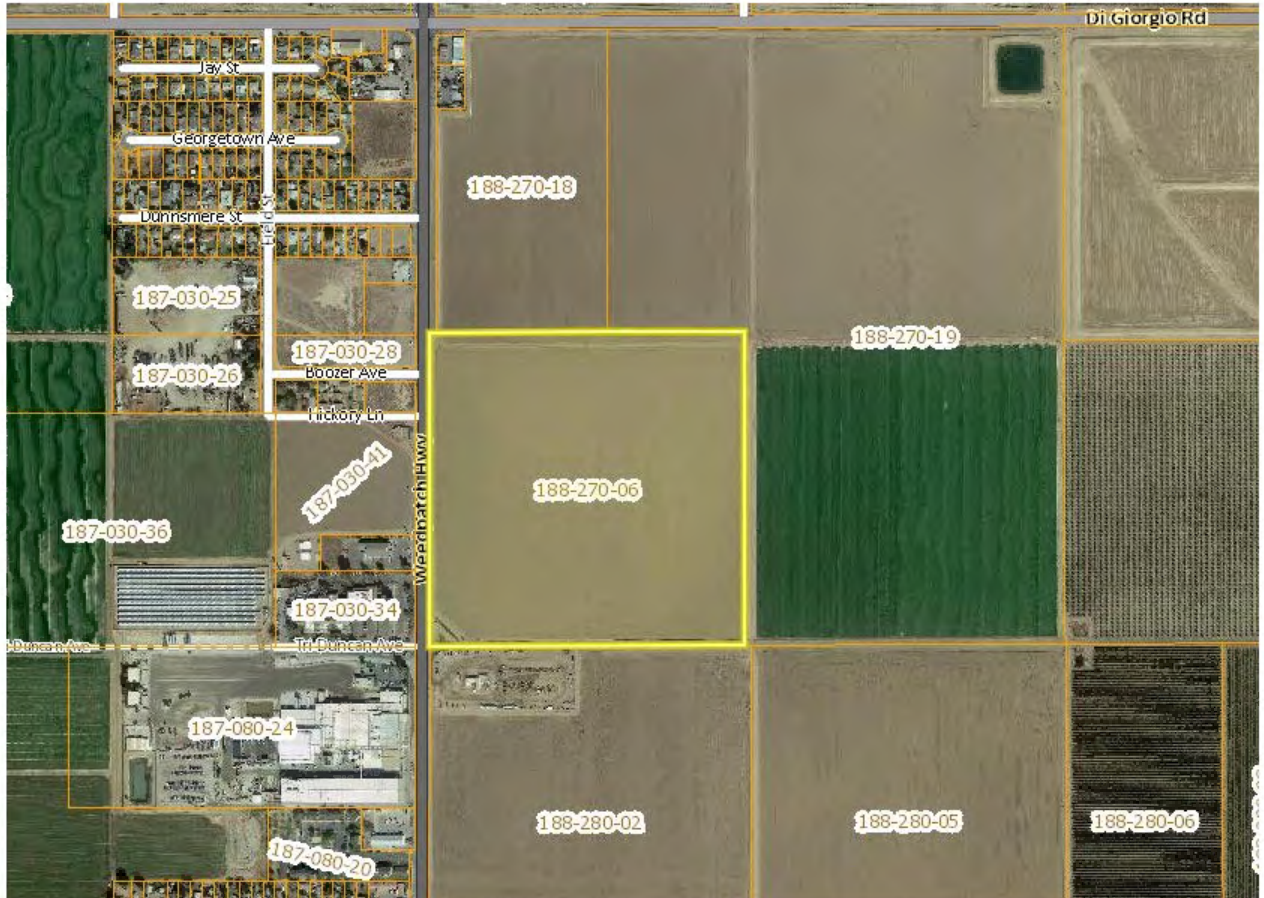


Figure 13: APN 188-270-06

The property is approximately 41.24 acres and is located in Section 7, T31S, R29E, M.D.B.&M. The property is owned by the Schweissinger Trust in San Jose, Ca. and is zoned A for exclusive agriculture.

An approximate 0.5 to 1.0 acre well site would accommodate a new well and potential treatment system.

The property has industrial properties to the west. It is anticipated that during well drilling activity, noise barrier walls would be required on the west side of the site depending on where the well site actually ends up.

There is an existing ten-inch (10”) water main in Weedpatch Highway. There would likely need to be a main line extension project to connect to the distribution system north of the site.

The known hazards in the area of the property include:

- The well site is within the 500 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well 5 or Well 11 as each are about 3,000-ft to 3,500-ft away from this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

12. APN 188-250-12 – NE Corner of DiGiorgio Road & Habecker Road

This property is located on the northeast corner of DiGiorgio Road and Habecker Road as illustrated in Figure 14 below.



Figure 14: APN 188-250-12

The property is approximately 37.8 acres and is located in Section 6, T31S, R29E, M.D.B.&M. The property is owned by Daniel L. Martin in San Jose, Ca. and is zoned A for exclusive agriculture.

An approximate 0.5 to 1.0 acre well site would accommodate a new well and potential treatment system.

The property has residential properties to the west. It is anticipated that during well drilling activity, noise barrier walls would be required on the west side of the site depending on where the well site actually ends up.

There is an existing twelve-inch (12”) water main to the east in Habecker Road.

The known hazards in the area of the property include:

- The well site is within the 500 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.

- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well 11 as the property is approximately one-mile to the east of the Well 11 site. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

13. APN 188-250-30 – Habecker Road

This property is located on the east side of Habecker Road and north of the extension of Segrue Road as illustrated in Figure 15 below.



Figure 15: APN 188-250-30

The property is approximately 7.1 acres and is located in Section 6, T31S, R29E, M.D.B.&M. The property is owned by Juan Villasenor and Olga Arroyo in Simi Valley, Ca. and is zoned A for exclusive agriculture.

An approximate 0.5 to 1.0 acre well site would accommodate a new well and potential treatment system.

The property has residential properties to the west and multi-family apartments to the north. It is anticipated that during well drilling activity, noise barrier walls would be required on the west and north sides of the site depending on where the well site actually ends up.

There is an existing twelve-inch (12”) water main to the west in Habecker Road south of Camino La Jolla.

The known hazards in the area of the property include:

- The well site is within the 500 year flood plain.

- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well 11 as the property is approximately one-mile to the east of the Well 11 site. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

14. APN 187-030-41 – SW Corner of Main Street and Hickory Lane

This property is located on the west side of Weedpatch Highway just south of Hickory Lane as illustrated in Figure 16 below.



Figure 16: APN 187-030-41

The property is approximately 7.8 acres and is located in Section 12, T31S, R28E, M.D.B.&M. The property is owned by the Kim Family Trust in Bakersfield, Ca. and is zoned C-2 for commercial development.

An approximate 0.5 to 1.0 acre well site would accommodate a new well and potential treatment system.

The property has residential homes to the north and industrial properties to the south. It is anticipated that during well drilling activity, noise barrier walls would be required on the north and south sides of the site depending on where the well site actually ends up.

There is an existing ten-inch (10”) or twelve-inch (12”) water main adjacent to the property on the west side of Weedpatch Highway.

The known hazards in the area of the property include:

- The well site is within the 500 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well 5 as Well No. 5 is just southeast of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

15. APN 187-030-36 – Tri Duncan Avenue

This property is located on the west side of Weedpatch Highway just north of Tri Duncan Avenue as illustrated in Figure 17 below.



Figure 17: APN 187-030-36

The property is approximately 30.98 acres and is located in Section 12, T31S, R28E, M.D.B.&M. The property is owned by Crystal Organic Farms, LLC. in Bakersfield, Ca. and is zoned A for exclusive agriculture.

An approximate 0.5 to 1.0 acre well site would accommodate a new well and potential treatment system.

The property has industrial properties to the north and the south. It is anticipated that during well drilling activity, noise barrier walls would be required on the north and south sides of the site depending on where the well site actually ends up.

There is an existing ten-inch (10”) or twelve-inch (12”) water main to the east of the property on the west side of Weedpatch Highway.

The known hazards in the area of the property include:

- The well site is within the 500 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well 5 as Well No. 5 is just southeast of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

16. APN 187-102-35 – NE Cor of Parish Ave and Buena Vista Blvd

This property is located on the northeast corner of Parish Avenue and Buena Vista Boulevard see Figure 18.

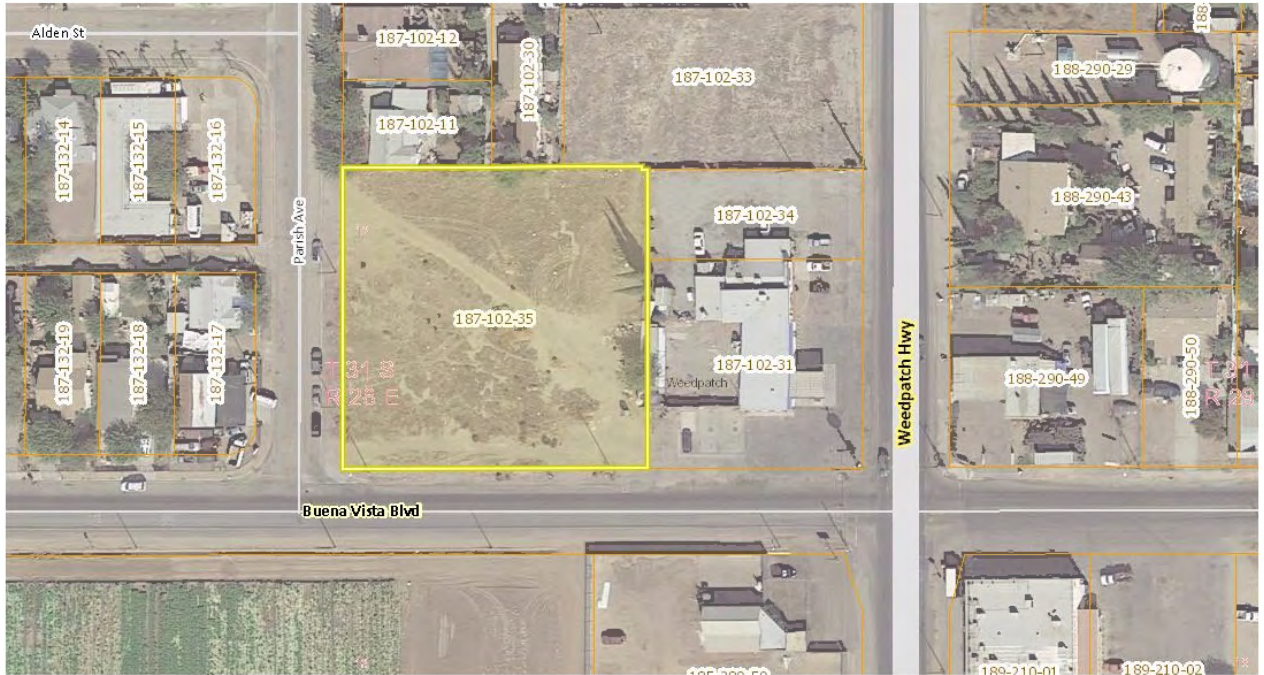


Figure 18: APN 187-102-35

The property is approximately 0.96 acres and is located in Section 12, T31S, R28E, M.D.B.&M. The property is owned by Jassar Sikander in Bakersfield, Ca. and is zoned CH for highway commercial.

An approximate 0.50 to 0.96 acre well site would accommodate a new well and potential treatment system or storage tank, if necessary.

The property has residential homes to the north and west of the site as well as commercial to the east. It is anticipated that during well drilling activity, noise barrier walls would be required on the north, east, and west sides of the site.

There is an existing six-inch (6”) water main in Parish Avenue and also an existing twelve-inch (12”) water main west of the site on Buena Vista Boulevard.

The known hazards in the area of the property include:

- The well site is within the 500 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well 5 as Well No. 5 is approximately 400-feet to the east of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

17. APN 187-080-25 – SE Corner of May Street & Tri Duncan Avenue

This property is located on the west side of Weedpatch Highway at the southeast corner of May Street and Tri Duncan Avenue as illustrated in Figure 19 below.

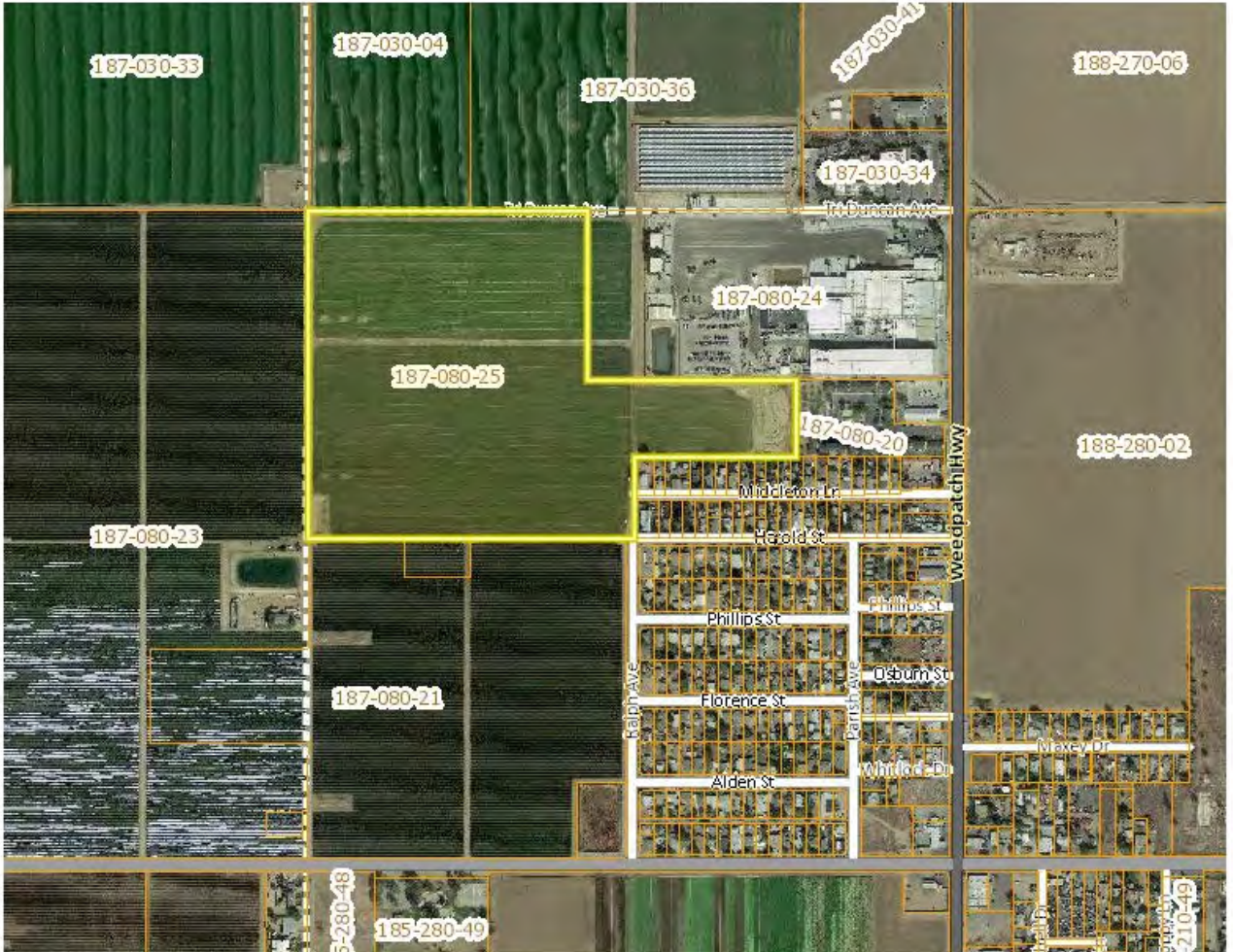


Figure 19: APN 187-080-25

The property is approximately 45.8 acres and is located in Section 12, T31S, R28E, M.D.B.&M. The property is owned by Crystal Organic Farms, LLC. in Bakersfield, Ca. and is zoned A for exclusive agriculture.

An approximate 0.5 to 1.0 acre well site would accommodate a new well and potential treatment system.

The property has residential homes near the southeast corner of the property and industrial properties on the east. It is anticipated that during well drilling activity, noise barrier walls would be required on the east and south sides of the site depending on where the well site actually ends up.

There is an existing six-inch (6”) water main near the southeast corner of the property at Middleton Lane. A well site on this property would require a twelve-inch main line extension from the well to the distribution system.

The known hazards in the area of the property include:

- The well site is within the 500 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well 5 as Well No. 5 is just southeast of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

18. APN 188-280-05 – Near Buena Vista Blvd & Weedpatch Hwy

This property is located on the east side of Weedpatch Highway and on the north side of Buena Vista Boulevard as illustrated in Figure 20 below.

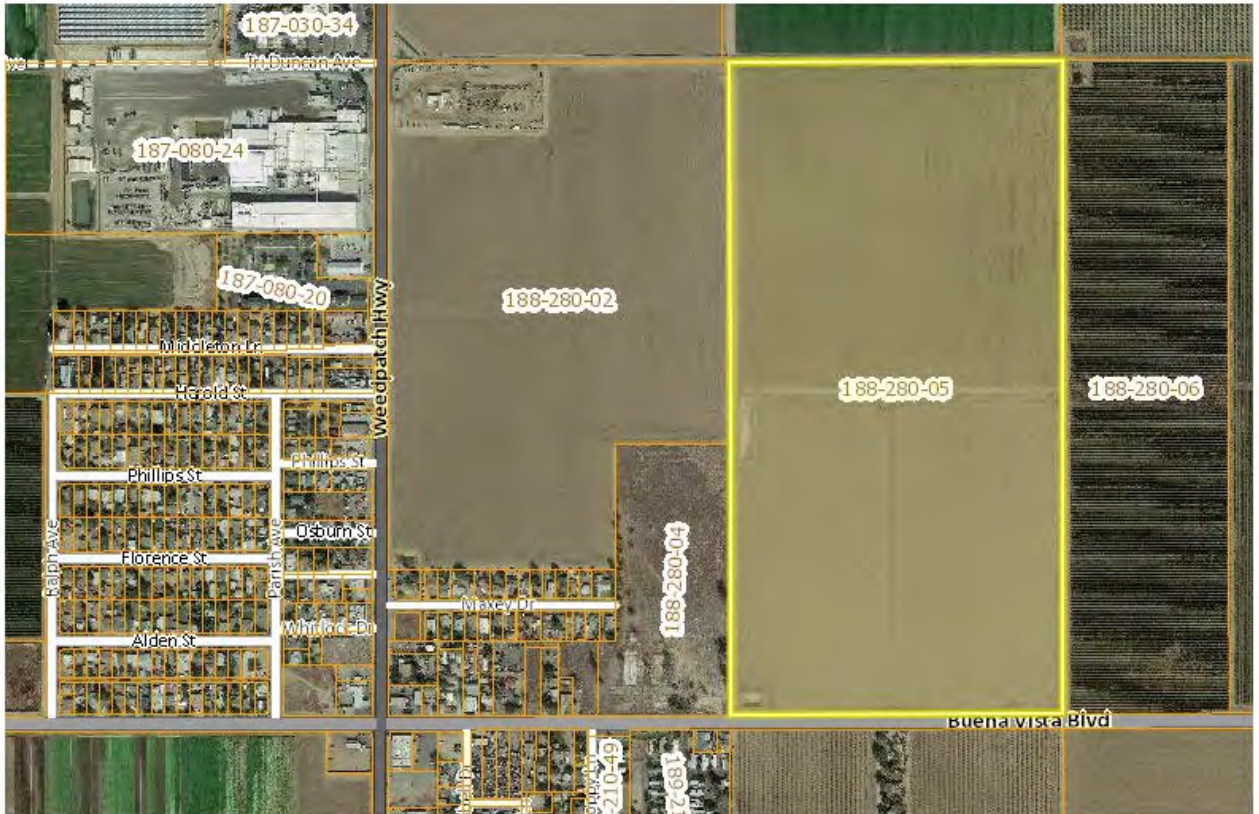


Figure 20: APN 188-280-05

The property is approximately 79.0 acres and is located in Section 7, T31S, R29E, M.D.B.&M. The property is owned by Crystal Organic Farms, LLC. in Bakersfield, Ca. and is zoned A for exclusive agriculture.

An approximate 0.5 to 1.0 acre well site would accommodate a new well and potential treatment system.

The property is fairly removed from any residential properties. It is anticipated that during well drilling activity, noise barrier walls would not be required.

There is an existing twelve-inch (12”) water main across the frontage of the property on the north side of Buena Vista Boulevard.

The known hazards in the area of the property include:

- The well site is within the 500 year flood plain.

- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well 5 as Well No. 5 is just west of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

19. APN 188-280-02 – Weedpatch Hwy

This property is located on the east side of Weedpatch Highway in between Maxey Drive and Tri Duncan Avenue as illustrated in Figure 21 below.

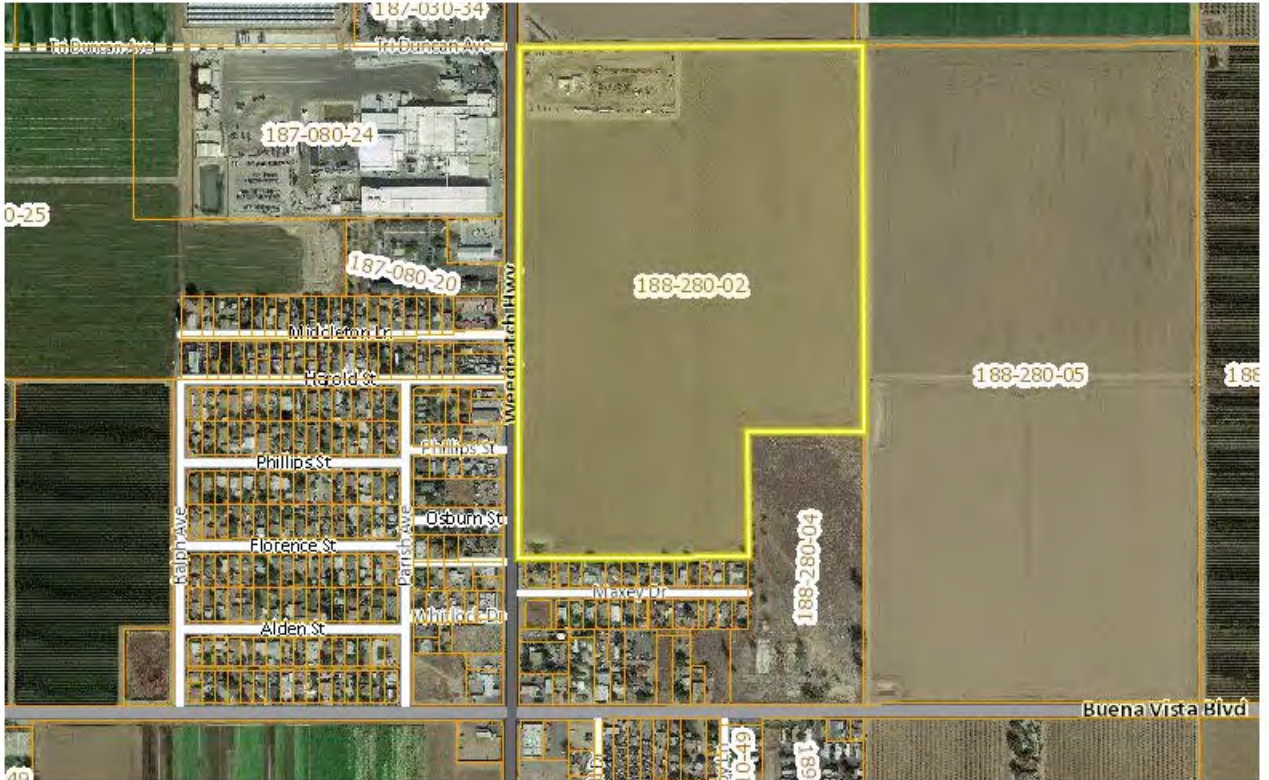


Figure 21: APN 188-280-02

The property is approximately 57.0 acres and is located in Section 7, T31S, R29E, M.D.B.&M. The property is owned by Crystal Organic Farms, LLC. in Bakersfield, Ca. and is zoned A for exclusive agriculture.

An approximate 0.5 to 1.0 acre well site would accommodate a new well and potential treatment system.

The property has residential homes across the street to the west and also to the south of the site. It is anticipated that during well drilling activity, noise barrier walls would be required on the west and south sides of the site depending on where the well site actually ends up.

There is an existing twelve-inch (12”) water main across the street on the west side of Weedpatch Highway.

The known hazards in the area of the property include:

- The well site is within the 500 year flood plain.

- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well 5 as Well No. 5 is just south of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

20. APN 186-080-04 – Hall Rd and San Fernando Street

This property is located on the north side of Hall Rd in between San Fernando Street and San Diego Street.



Figure 22: APN 186-080-04

The property is approximately 2.0 acres and is located in Section 1, T31S, R28E, M.D.B.&M. The property is owned by Karen Reed in Gilroy, Ca. and is zoned R-1 for low density residential.

An approximate 0.50 acre to 1.0 acre well site would accommodate a new well and potential treatment system or storage tank, if necessary.

The property has residential homes across the street to the south, residential homes to the west, and a school to the north. It is anticipated that during well drilling activity, noise barrier walls would be required on the north, south, and west sides of the site.

There is an existing twelve-inch (12”) water main on the west side of San Fernando Street and also on the south side of Hall Road.

The known hazards in the area of the property include:

- The well site is within the 100 year flood plain.
- The known hazard with the San Andreas Fault and the White Wolf Fault is strong.
- The hazard with respect to subsidence is low.
- There are also no known risks to wildfire hazards or landslides.

A new well at this site would likely replace Well 13 as Well No. 13 is approximately 500-feet to the southeast of this property. Hydraulically a well in this location will be able to maintain the system pressure between 50 psi to 60 psi.

APPENDIX A
PROPERTY DETAIL REPORTS

APN 186-080-05
Property Information



DETAIL REPORT

Property Address: 7616 HALL RD LAMONT CA 93241

Ownership

Parcel# (APN): 186-080-05-00-4
Parcel Status: ACTIVE
Owner Name: CHIPRES PROP LLC
Mailing Addr: P O BOX 550 LAMONT CA 93241
Legal Description: CITY GLBRT, BLOCK, LOT PTN5

Assessment

Total Value: \$105,088 Use Code: 0010 Use Type: VACANT
Land Value: \$105,088 Tax Rate Area: 096-001 Zoning:
Impr Value: Year Assd: 2020 Census Tract:
Other Value: Property Tax: Price/SqFt:
% Improved: 0% Delinquent Yr:
Exempt Amt: HO Exempt: N

Sale History

Recording date: 12/19/2006
Recording Doc: 206311947
Doc type: GRANT DEED
Transfer Amount:
Seller (Grantor): CHIPRES SALVADOR & CONCE

Property Characteristics

Bedrooms: Fireplace: Units:
Baths (Full): A/C: Stories:
Baths (Half): Heating: Quality:
Total Rooms: Pool: Building Class:
Bldg/Liv Area: Park Type: Condition:
Lot Acres: 1.600 Spaces: Site influence:
Lot SqFt: 69,696 Garage SqFt: Timber Preserve:
Year Built: Bsmt SqFt: N/A Ag Preserve:
Effective Year:

APN 187-030-04
Property Information



DETAIL REPORT

Property Address: 7601 GREENFIELD RD LAMONT CA 93241

Ownership

Parcel# (APN): 187-030-04-00-3
Parcel Status: ACTIVE
Owner Name: CRYSTAL ORGANIC FARMS LLC
Mailing Addr: P O BOX 81498 BAKERSFIELD CA 93380
Legal Description: SECTION 12, TOWNSHIP 31, RANGE 28, QUARTER

Assessment

Total Value: \$597,286 Use Code: 4300 Use Type: AGRICULTURAL
Land Value: \$527,314 Tax Rate Area: 129-018 Zoning:
Impr Value: \$69,972 Year Assd: 2020 Census Tract:
Other Value: Property Tax: Price/SqFt:
% Improved: 11% Delinquent Yr:
Exempt Amt: HO Exempt: N

Sale History

Recording date: 01/01/2009
Recording Doc: RLT090837
Doc type: GRANT DEED
Transfer Amount:
Seller (Grantor): DUNCAN DANIEL C & SUSAN

Property Characteristics

Bedrooms: Fireplace: Units:
Baths (Full): A/C: Stories:
Baths (Half): Heating: Quality:
Total Rooms: Pool: Building Class:
Bldg/Liv Area: Park Type: Condition:
Lot Acres: 64.090 Spaces: Site influence:
Lot SqFt: 2,791,760 Garage SqFt: Timber Preserve:
Year Built: Bsmt SqFt: N/A Ag Preserve:
Effective Year:

APN 187-102-33
Property Information



DETAIL REPORT

Property Address: 12804 MAIN ST LAMONT CA 93241-3035

Ownership

Parcel# (APN): 187-102-33-00-1
Parcel Status: ACTIVE
Owner Name: NUNEZ RAMIREZ ROMAN & NUNEZ AIDE A
Mailing Addr: 432 FABIAN ST ARVIN CA 93203
Legal Description: SECTION 12, TOWNSHIP 31, RANGE 28, QUARTER

Assessment

Total Value: \$41,306 Use Code: 1000 Use Type: VACANT
Land Value: \$41,306 Tax Rate Area: 129-003 Zoning:
Impr Value: Year Assd: 2020 Census Tract: 64.04/1
Other Value: Property Tax:
% Improved: 0% Delinquent Yr:
Exempt Amt: HO Exempt: N

Sale History

Recording date: 08/28/2009 10/06/2008 09/01/2006 08/28/2009
Recording Doc: 209127226 208157868 206218856 209127226
Doc type: GRANT DEED TRUSTEE'S DEED GRANT DEED
Transfer Amount: \$62,000 \$195,000
Seller (Grantor): DEUTSCHE BK TR CO AMERS

Property Characteristics

Bedrooms: Fireplace: Units:
Baths (Full): A/C: Stories: 1.0
Baths (Half): Heating: Quality:
Total Rooms: Pool: Building Class:
Bldg/Liv Area: Park Type: Condition: POOR
Lot Acres: 0.590 Spaces: Site influence:
Lot SqFt: 25,700 Garage SqFt: Timber Preserve:
Year Built: 1948 Bsmt SqFt: N/A Ag Preserve:
Effective Year: 1948

APN 174-230-06
Property Information



DETAIL REPORT

Property Address: LAMONT CA 93241

Ownership

Parcel# (APN): 174-230-06-00-3
 Parcel Status: ACTIVE
 Owner Name: REYNOSO ARTEMIO & MARIA
 Mailing Addr: 2509 MOFFITT WY BAKERSFIELD CA 93309
 Legal Description: PARCEL MAP 122, LOT 4

Assessment

Total Value:	\$126,473	Use Code:	0070	Use Type:	VACANT
Land Value:	\$126,473	Tax Rate Area:	096-019	Zoning:	
Impr Value:		Year Assd:	2020	Census Tract:	
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	0%	Delinquent Yr:			
Exempt Amt:		HO Exempt:	N		

Sale History

	Sale1	Sale2	Sale3	Transfer
Recording date:	05/12/2000			05/12/2000
Recording Doc:	200058005			200058005
Doc type:	GRANT DEED			
Transfer Amount:	\$90,000			
Seller (Grantor):	CAMARILLO H L & GRACIELA			

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 3.940	Spaces:	Site influence:
Lot SqFt: 171,626	Garage SqFt:	Timber Preserve:
Year Built:	Bsmt SqFt: N/A	Ag Preserve:
Effective Year:		

APN 188-290-32
Property Information



DETAIL REPORT

Property Address: LAMONT CA 93241

Ownership

Parcel# (APN): 188-290-32-00-7
 Parcel Status: ACTIVE
 Owner Name: GUZMAN ALEJANDRO & MARIA ELENA
 Mailing Addr: 14324 GREVILLEA AV LAWNDAL CA 90260
 Legal Description: SECTION 7, TOWNSHIP 31, RANGE 29, QUARTER

Assessment

Total Value:	\$127,446	Use Code:	1020	Use Type:	VACANT
Land Value:	\$127,446	Tax Rate Area:	129-003	Zoning:	C2
Impr Value:		Year Assd:	2020	Census Tract:	64.04/1
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	0%	Delinquent Yr:			
Exempt Amt:		HO Exempt:	N		

Sale History

	Sale1	Sale2	Sale3	Transfer
Recording date:	12/08/2004	09/09/1997	07/15/1997	12/08/2004
Recording Doc:	204301560	197117856	197092267	204301560
Doc type:	GRANT DEED	GRANT DEED	GRANT DEED	
Transfer Amount:	\$100,000	\$19,500	\$5,500	
Seller (Grantor):	VACA MIGUEL			

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 0.270	Spaces:	Site influence:
Lot SqFt: 11,761	Garage SqFt:	Timber Preserve:
Year Built:	Bsmt SqFt: N/A	Ag Preserve:
Effective Year:		

APN 178-282-25
Property Information



DETAIL REPORT

Property Address: PANAMA RD BAKERSFIELD CA

Ownership

Parcel# (APN): 178-282-25-00-5
 Parcel Status: ACTIVE
 Owner Name: LAMONT SCH DIST
 Mailing Addr: 7915 BURGUNDY AV LAMONT CA 93241
 Legal Description: SECTION 31, TOWNSHIP 30, RANGE 29, QUARTER SW

Assessment

Total Value:	\$43,387	Use Code:	6040	Use Type:	SCHOOLS
Land Value:	\$43,387	Tax Rate Area:	096-018	Zoning:	
Impr Value:		Year Assd:	2020	Census Tract:	
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	0%	Delinquent Yr:			
Exempt Amt:		HO Exempt:	N		

Sale History

	Sale1	Sale2	Sale3	Transfer
Recording date:	02/25/2015			02/25/2015
Recording Doc:	215021341			215021341
Doc type:	GRANT DEED			
Transfer Amount:				
Seller (Grantor):	GIUMARRA BROS FRUIT LLC			

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 21.530	Spaces:	Site influence:
Lot SqFt: 937,846	Garage SqFt:	Timber Preserve:
Year Built:	Bsmt SqFt: N/A	Ag Preserve:
Effective Year:		

APN 178-282-26
Property Information



DETAIL REPORT

Property Address: PANAMA RD BAKERSFIELD CA

Ownership

Parcel# (APN): 178-282-26-00-8
 Parcel Status: ACTIVE
 Owner Name: GIUMARRA BROS FRUIT LLC
 Mailing Addr: P O BOX 1969 BAKERSFIELD CA 93303
 Legal Description: SECTION 31, TOWNSHIP 30, RANGE 29, QUARTER SW

Assessment

Total Value:	\$45,010	Use Code:	4300	Use Type:	AGRICULTURAL
Land Value:	\$39,661	Tax Rate Area:	096-018	Zoning:	
Impr Value:	\$5,349	Year Assd:	2020	Census Tract:	
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	11%	Delinquent Yr:			
Exempt Amt:		HO Exempt:	N		

Sale History

	Sale1	Sale2	Sale3	Transfer
Recording date:				
Recording Doc:				
Doc type:				
Transfer Amount:				
Seller (Grantor):				

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 17.560	Spaces:	Site influence:
Lot SqFt: 764,913	Garage SqFt:	Timber Preserve:
Year Built:	Bsmt SqFt: N/A	Ag Preserve:
Effective Year:		

APN 174-160-23
Property Information



DETAIL REPORT

Property Address: LAMONT CA 93241

Ownership

Parcel# (APN): 174-160-23-00-2
 Parcel Status: ACTIVE
 Owner Name: LAMONT SHOPPING CENTER LLC
 Mailing Addr:
 Legal Description: LLA 38-94 PAR 2 DOC# 194150269 RECD 10/1

Assessment

Total Value:	\$410,829	Use Code:	4000	Use Type:	MISCELLANEOUS
Land Value:	\$381,545	Tax Rate Area:	096-026	Zoning:	A
Impr Value:	\$29,284	Year Assd:	2020	Census Tract:	64.01/1
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	7%	Delinquent Yr:			
Exempt Amt:		HO Exempt:	N		

Sale History

	Sale1	Sale2	Sale3	Transfer
Recording date:	08/11/2017	05/27/2011	08/15/2008	08/11/2017
Recording Doc:	217105699	211069544	208130772	217105699
Doc type:	GRANT DEED	TRUSTEE'S DEED	GRANT DEED	
Transfer Amount:			\$480,500	
Seller (Grantor):	DFI PROP LLC			

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 46.530	Spaces:	Site influence:
Lot SqFt: 2,026,846	Garage SqFt:	Timber Preserve:
Year Built:	Bsmt SqFt: N/A	Ag Preserve:
Effective Year:		

APN 188-270-19
Property Information



DETAIL REPORT

Property Address: LAMONT CA 93241

Ownership

Parcel# (APN): 188-270-19-00-4
Parcel Status: ACTIVE
Owner Name: SCHWEISSINGER TRUST
Mailing Addr: 6575 BELBROOK CT SAN JOSE CA 95120
Legal Description: SECTION 7, TOWNSHIP 31, RANGE 29, QUARTER

Assessment

Total Value: \$215,897 Use Code: 4300 Use Type: AGRICULTURAL
Land Value: \$155,832 Tax Rate Area: 129-000 Zoning:
Impr Value: \$60,065 Year Assd: 2020 Census Tract: 64.04/1
Other Value: Property Tax: Price/SqFt:
% Improved: 27% Delinquent Yr:
Exempt Amt: HO Exempt: N

Sale History

Recording date: 08/17/2012
Recording Doc: 212112573
Doc type: GRANT DEED
Transfer Amount:
Seller (Grantor): SCHWEISSINGER ROBERT ALA

Property Characteristics

Bedrooms: Fireplace: Units:
Baths (Full): A/C: Stories:
Baths (Half): Heating: Quality:
Total Rooms: Pool: Building Class:
Bldg/Liv Area: Park Type: Condition:
Lot Acres: 99.820 Spaces: Site influence:
Lot SqFt: 4,348,159 Garage SqFt: Timber Preserve:
Year Built: Bsmt SqFt: N/A Ag Preserve:
Effective Year:

APN 188-270-18
Property Information



DETAIL REPORT

Property Address: LAMONT CA 93241

Ownership

Parcel# (APN): 188-270-18-00-1
 Parcel Status: ACTIVE
 Owner Name: SCHWEISSINGER TRUST
 Mailing Addr: 6575 BELBROOK CT SAN JOSE CA 95120
 Legal Description: SECTION 7, TOWNSHIP 31, RANGE 29, QUARTER

Assessment

Total Value:	\$34,027	Use Code:	4300	Use Type:	AGRICULTURAL
Land Value:	\$32,158	Tax Rate Area:	129-000	Zoning:	
Impr Value:	\$1,869	Year Assd:	2020	Census Tract:	64.04/1
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	5%	Delinquent Yr:			
Exempt Amt:		HO Exempt:	N		

Sale History

	Sale1	Sale2	Sale3	Transfer
Recording date:	08/17/2012			03/27/2017
Recording Doc:	212112573			217038105
Doc type:	GRANT DEED			
Transfer Amount:				
Seller (Grantor):	SCHWEISSINGER ROBERT ALA			

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 20.600	Spaces:	Site influence:
Lot SqFt: 897,336	Garage SqFt:	Timber Preserve:
Year Built:	Bsmt SqFt: N/A	Ag Preserve:
Effective Year:		

APN 188-270-06
Property Information



DETAIL REPORT

Property Address: LAMONT CA 93241

Ownership

Parcel# (APN): 188-270-06-00-6
Parcel Status: ACTIVE
Owner Name: SCHWEISSINGER TRUST
Mailing Addr: 6575 BELBROOK CT SAN JOSE CA 95120
Legal Description: SECTION 7, TOWNSHIP 31, RANGE 29, QUARTER

Assessment

Total Value: \$77,834 Use Code: 4300 Use Type: AGRICULTURAL
Land Value: \$69,733 Tax Rate Area: 129-000 Zoning:
Impr Value: \$8,101 Year Assd: 2020 Census Tract: 64.04/1
Other Value: Property Tax: Price/SqFt:
% Improved: 10% Delinquent Yr:
Exempt Amt: HO Exempt: N

Sale History

Recording date: 03/27/2017
Recording Doc: 217038105
Doc type:
Transfer Amount:
Seller (Grantor):

Property Characteristics

Bedrooms: Fireplace: Units:
Baths (Full): A/C: Stories:
Baths (Half): Heating: Quality:
Total Rooms: Pool: Building Class:
Bldg/Liv Area: Park Type: Condition:
Lot Acres: 41.240 Spaces: Site influence:
Lot SqFt: 1,796,414 Garage SqFt: Timber Preserve:
Year Built: Bsmt SqFt: N/A Ag Preserve:
Effective Year:

APN 188-250-12
Property Information



DETAIL REPORT

Property Address: LAMONT CA 93241

Ownership

Parcel# (APN): 188-250-12-00-7
 Parcel Status: ACTIVE
 Owner Name: MARTIN DANIEL L
 Mailing Addr: 1435 IRIS CT SAN JOSE CA 95125
 Legal Description: S 6 T 31 R 29 *SW1/4 OF SE1/4 EXC RR RTW

Assessment

Total Value:	\$187,128	Use Code:	4104	Use Type:	AGRICULTURAL
Land Value:	\$120,951	Tax Rate Area:	096-002	Zoning:	A
Impr Value:	\$66,177	Year Assd:	2020	Census Tract:	
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	35%	Delinquent Yr:			
Exempt Amt:		HO Exempt:	N		

Sale History

	Sale1	Sale2	Sale3	Transfer
Recording date:	07/23/2020			07/23/2020
Recording Doc:	220096563			220096563
Doc type:	GRANT DEED			
Transfer Amount:				
Seller (Grantor):	MARTIN REVOCABLE LIVING			

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 37.760	Spaces:	Site influence:
Lot SqFt: 1,644,825	Garage SqFt:	Timber Preserve:
Year Built:	Bsmt SqFt: N/A	Ag Preserve: Y
Effective Year:		

APN 188-250-30
Property Information



DETAIL REPORT

Property Address: LAMONT CA 93241

Ownership

Parcel# (APN): 188-250-30-00-9
 Parcel Status: ACTIVE
 Owner Name: VILLASENOR JUAN C & ARROYO OLGA L N
 Mailing Addr: 1708 HAMILTON ST SIMI VALLEY CA 93065
 Legal Description: S 6 T 31 R 29 *PTN SE 1/4 EXCL 62 1/2% M

Assessment

Total Value:	\$155,000	Use Code:	0080	Use Type:	VACANT
Land Value:	\$155,000	Tax Rate Area:	096-012	Zoning:	A1
Impr Value:		Year Assd:	2020	Census Tract:	64.01/4
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	0%	Delinquent Yr:			
Exempt Amt:		HO Exempt:	N		

Sale History

	Sale1	Sale2	Sale3	Transfer
Recording date:	07/30/2020	09/13/2005	12/29/2004	07/30/2020
Recording Doc:	220101083	205249076	204321887	220101083
Doc type:	GRANT DEED	GRANT DEED	GRANT DEED	
Transfer Amount:	\$380,000	\$350,000	\$130,000	
Seller (Grantor):	ZUNIGA ADOLFO & CAROLINA			

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 7.100	Spaces:	Site influence:
Lot SqFt: 309,276	Garage SqFt:	Timber Preserve:
Year Built:	Bsmt SqFt: N/A	Ag Preserve:
Effective Year:		

APN 187-030-41
Property Information



DETAIL REPORT

Property Address: LAMONT CA 93241

Ownership

Parcel# (APN): 187-030-41-00-0
 Parcel Status: ACTIVE
 Owner Name: KIM FMLY TR
 Mailing Addr: 5009 SILVERY JEWEL LN BAKERSFIELD CA 93313
 Legal Description: SECTION 12, TOWNSHIP 31, RANGE 28, QUARTER NE

Assessment

Total Value:	\$386,345	Use Code:	1020	Use Type:	VACANT
Land Value:	\$377,950	Tax Rate Area:	129-018	Zoning:	
Impr Value:	\$8,395	Year Assd:	2020	Census Tract:	
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	2%	Delinquent Yr:			
Exempt Amt:		HO Exempt:	N		

Sale History

	Sale1	Sale2	Sale3	Transfer
Recording date:	06/20/2006	07/18/2005		06/20/2006
Recording Doc:	206150070	205185156		206150070
Doc type:	GRANT DEED	GRANT DEED		
Transfer Amount:				
Seller (Grantor):	KIM FMLY TR			

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 7.800	Spaces:	Site influence:
Lot SqFt: 339,768	Garage SqFt:	Timber Preserve:
Year Built:	Bsmt SqFt: N/A	Ag Preserve:
Effective Year:		

APN 187-030-36
Property Information



DETAIL REPORT

Property Address: LAMONT CA 93241

Ownership

Parcel# (APN): 187-030-36-00-6
 Parcel Status: ACTIVE
 Owner Name: CRYSTAL ORGANIC FARMS LLC
 Mailing Addr: PO BOX 81498 BAKERSFIELD CA 93380
 Legal Description: PARCEL MAP 8733, LOT 1

Assessment

Total Value:	\$259,898	Use Code:	4300	Use Type:	AGRICULTURAL
Land Value:	\$254,907	Tax Rate Area:	129-018	Zoning:	
Impr Value:	\$4,991	Year Assd:	2020	Census Tract:	64.04/2
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	1%	Delinquent Yr:			
Exempt Amt:		HO Exempt:	N		

Sale History

	Sale1	Sale2	Sale3	Transfer
Recording date:	01/19/2006			01/19/2006
Recording Doc:	206013736			206013736
Doc type:	GRANT DEED			
Transfer Amount:	\$909			
Seller (Grantor):	DUNCAN DANIEL C & SUSAN			

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 30.980	Spaces:	Site influence:
Lot SqFt: 1,349,488	Garage SqFt:	Timber Preserve:
Year Built:	Bsmt SqFt: N/A	Ag Preserve:
Effective Year:		

187-102-35
Property Information



DETAIL REPORT

Property Address: LAMONT CA 93241

Ownership

Parcel# (APN): 187-102-35-00-7
 Parcel Status: ACTIVE
 Owner Name: JASSAR SIKANDER
 Mailing Addr: 4413 CHERRYROCK AV BAKERSFIELD CA 93313
 Legal Description: PARCEL MAP 3980, LOT 1

Assessment

Total Value:	\$52,964	Use Code:	1010	Use Type:	VACANT
Land Value:	\$52,964	Tax Rate Area:	129-003	Zoning:	
Impr Value:		Year Assd:	2020	Census Tract:	64.04/1
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	0%	Delinquent Yr:			
Exempt Amt:		HO Exempt:	N		

Sale History

	Sale1	Sale2	Sale3	Transfer
Recording date:	05/29/2003			05/29/2003
Recording Doc:	203104392			203104392
Doc type:	GRANT DEED			
Transfer Amount:	\$40,000			
Seller (Grantor):	MARKIEWITZ DANA PARISH			

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 0.960	Spaces:	Site influence:
Lot SqFt: 41,817	Garage SqFt:	Timber Preserve:
Year Built:	Bsmt SqFt: N/A	Ag Preserve:
Effective Year:		

APN 187-080-25
Property Information



DETAIL REPORT

Property Address: LAMONT CA 93241

Ownership

Parcel# (APN): 187-080-25-00-9
 Parcel Status: ACTIVE
 Owner Name: CRYSTAL ORGANIC FARMS LLC
 Mailing Addr: PO BOX 81498 BAKERSFIELD CA 93380
 Legal Description: PARCEL MAP 10757, LOT 2

Assessment

Total Value:	\$377,365	Use Code:	4300	Use Type:	AGRICULTURAL
Land Value:	\$377,365	Tax Rate Area:	129-018	Zoning:	
Impr Value:		Year Assd:	2020	Census Tract:	64.04/2
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	0%	Delinquent Yr:			
Exempt Amt:		HO Exempt:	N		

Sale History

	Sale1	Sale2	Sale3	Transfer
Recording date:	01/19/2006	09/12/2001		01/19/2006
Recording Doc:	206013736	201133828		206013736
Doc type:	GRANT DEED	GRANT DEED		
Transfer Amount:	\$909	\$65,000		
Seller (Grantor):	DUNCAN D C FAMILY TRUST			

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 45.770	Spaces:	Site influence:
Lot SqFt: 1,993,741	Garage SqFt:	Timber Preserve:
Year Built:	Bsmt SqFt: N/A	Ag Preserve:
Effective Year:		

APN 188-280-05
Property Information



DETAIL REPORT

Property Address: **BAKERSFIELD CA 93307**

Ownership

Parcel# (APN): **188-280-05-00-6**
 Parcel Status: **ACTIVE**
 Owner Name: **CRYSTAL ORGANIC FARMS LLC**
 Mailing Addr: **PO BOX 81498 BAKERSFIELD CA 93380**
 Legal Description: **SECTION 7, TOWNSHIP 31, RANGE 29, QUARTER**

Assessment

Total Value:	\$683,036	Use Code:	4300	Use Type:	AGRICULTURAL
Land Value:	\$649,770	Tax Rate Area:	129-000	Zoning:	
Impr Value:	\$33,266	Year Assd:	2020	Census Tract:	64.04/1
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	4%	Delinquent Yr:			
Exempt Amt:		HO Exempt:	N		

Sale History

	Sale1	Sale2	Sale3	Transfer
Recording date:	01/19/2006	04/07/1999		01/19/2006
Recording Doc:	206013736	199049525		206013736
Doc type:	GRANT DEED	GRANT DEED		
Transfer Amount:	\$909	\$360,000		
Seller (Grantor):	D C FAMILY TRUST			

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 79.090	Spaces:	Site influence:
Lot SqFt: 3,445,160	Garage SqFt:	Timber Preserve:
Year Built:	Bsmt SqFt: N/A	Ag Preserve:
Effective Year:		

APN 188-280-02
Property Information



DETAIL REPORT

Property Address: LAMONT CA 93241

Ownership

Parcel# (APN): 188-280-02-00-7
Parcel Status: ACTIVE
Owner Name: CRYSTAL ORGANIC FARMS LLC
Mailing Addr: PO BOX 81498 BAKERSFIELD CA 93380
Legal Description: SECTION 7, TOWNSHIP 31, RANGE 29, QUARTER

Assessment

Total Value: \$163,993 Use Code: 4300 Use Type: AGRICULTURAL
Land Value: \$152,545 Tax Rate Area: 129-000 Zoning:
Impr Value: \$11,448 Year Assd: 2020 Census Tract: 64.04/1
Other Value: Property Tax: Price/SqFt:
% Improved: 6% Delinquent Yr:
Exempt Amt: HO Exempt: N

Sale History

Recording date: 03/27/1998
Recording Doc: RLT981242
Doc type: GRANT DEED
Transfer Amount: \$285,000
Seller (Grantor): D C FAMILY TRUST

Property Characteristics

Bedrooms: Fireplace: Units:
Baths (Full): A/C: Stories:
Baths (Half): Heating: Quality:
Total Rooms: Pool: Building Class:
Bldg/Liv Area: Park Type: Condition:
Lot Acres: 57.000 Spaces: Site influence:
Lot SqFt: 2,482,920 Garage SqFt: Timber Preserve:
Year Built: Bsmt SqFt: N/A Ag Preserve: Y
Effective Year:

APN 186-080-04
Property Information



DETAIL REPORT

Property Address: LAMONT CA 93241

Ownership

Parcel# (APN): 186-080-04-00-1
Parcel Status: ACTIVE
Owner Name: REED KAREN
Mailing Addr: 10005 BURCHELL RD GILROY CA 95020
Legal Description: CITY GLBRT, BLOCK, LOT PTN5

Assessment

Total Value: \$11,523 Use Code: 0010 Use Type: VACANT
Land Value: \$11,523 Tax Rate Area: 096-001 Zoning:
Impr Value: Year Assd: 2020 Census Tract:
Other Value: Property Tax: Price/SqFt:
% Improved: 0% Delinquent Yr:
Exempt Amt: HO Exempt: N

Sale History

Recording date: 09/16/2011
Recording Doc: 211121782
Doc type:
Transfer Amount:
Seller (Grantor):

Property Characteristics

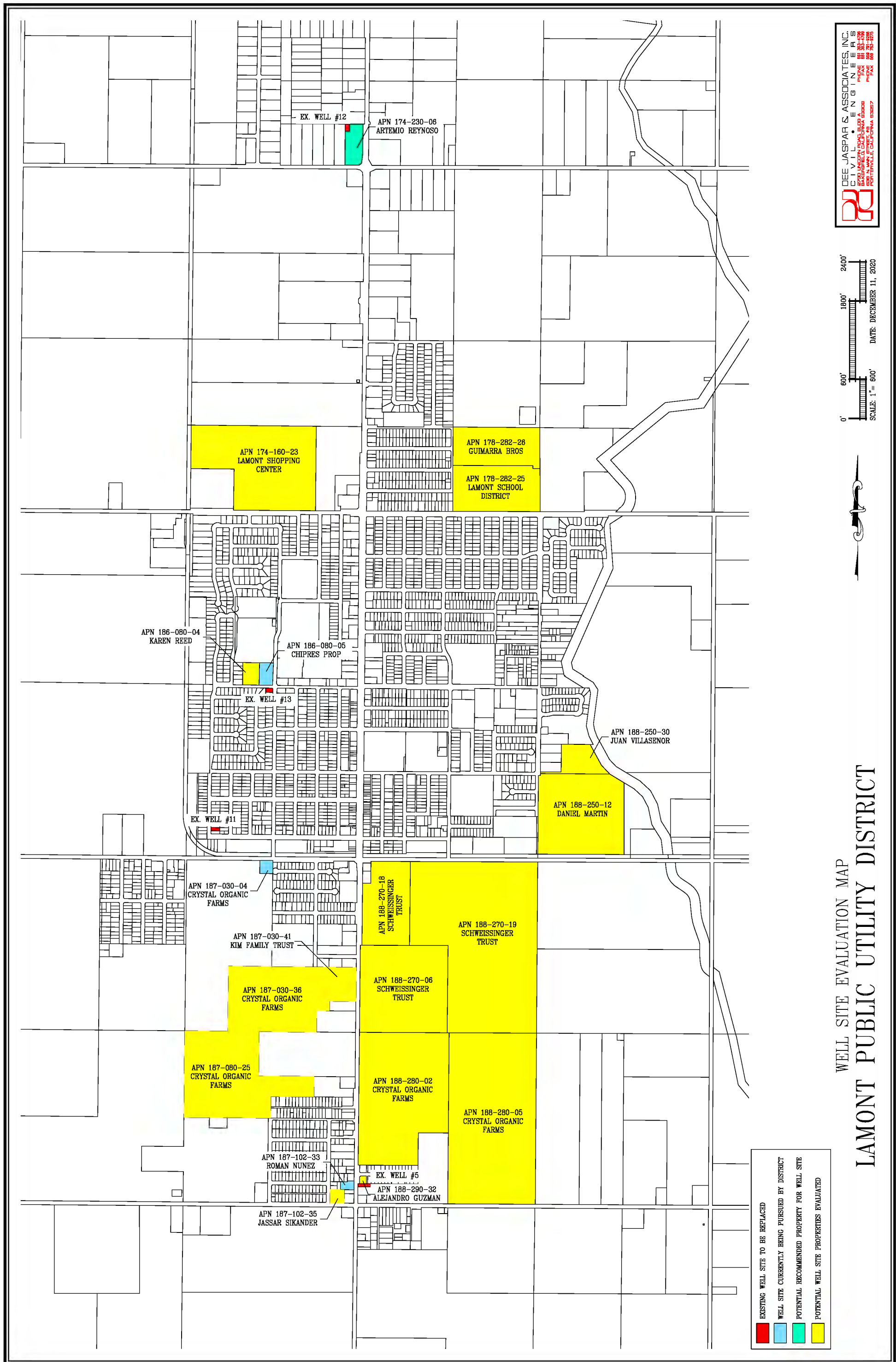
Bedrooms: Fireplace: Units:
Baths (Full): A/C: Stories:
Baths (Half): Heating: Quality:
Total Rooms: Pool: Building Class:
Bldg/Liv Area: Park Type: Condition:
Lot Acres: 2.009 Spaces: Site influence:
Lot SqFt: 87,555 Garage SqFt: Timber Preserve:
Year Built: Bsmt SqFt: N/A Ag Preserve:
Effective Year:

APPENDIX B
WELL SITE LOCATION MAP



WELL SITE EVALUATION MAP
LAMONT PUBLIC UTILITY DISTRICT

- EXISTING WELL SITE TO BE REPLACED
- WELL SITE CURRENTLY BEING PURSUED BY DISTRICT
- POTENTIAL RECOMMENDED PROPERTY FOR WELL SITE
- POTENTIAL WELL SITE PROPERTIES EVALUATED



APPENDIX 2

LAMONT PUBLIC UTILITY DISTRICT

System No. 1590006

Preliminary Engineering Report System Evaluation



November 2019



DEE JASPAR & ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS

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Appendix A – Schematic Map of System’s Existing Facilities

Appendix B – Notices of Violation

Appendix C – Schematic Maps of Proposed Facilities

Appendix D – Project Cost Estimates

Appendix E – Proposed Project Schedule

Appendix F – Supplemental Information Form

Appendix G – Permit List

I. SECTION 1 – INTRODUCTION AND BACKGROUND

1.1 PURPOSE

This Preliminary Engineering Report (PER) serves to evaluate the Lamont Public Utility District (District) with respect to its water supply, water storage, and water system infrastructure. The District relies solely upon groundwater for its drinking water supply and currently has eight (8) water wells. Two of the wells have Arsenic concentrations at or near the Maximum Contaminant Level (MCL). Five of the wells have 1,2,3-TCP concentrations that exceed the MCL, however two of those wells already have well head treatment in the form of Granular Activated Carbon (GAC). This report will evaluate the system water supply and demand, the water quality, the treatment alternatives for the wells, estimate the capital and operating costs, and provide recommendations.

The alternatives that are discussed in this report include:

1. No Project Alternative
2. Consolidation with a Nearby Water System
3. Obtaining a Surface Water Supply
4. Blending
5. Well Head Treatment
6. Centralized Treatment
7. Construction of Replacement Wells

Lamont is situated near the southern “horseshoe” end of the San Joaquin Valley, with the Sierra Nevada Mountains to the east, the Tehachapi Mountains to the south, and the Temblor Range to the west. Elevations in the District average about 400-feet above sea level. In general, the land slopes downhill to the southwest.

The District was formed in 1943 to combine several separate potable water systems into one main district. The District is governed by a five member elected Board of Directors. The Directors are elected to a four-year term in accordance with the provisions set forth in the California Public Utility District law. The District supplies potable water to the surrounding residential areas with some commercial and industrial packing operations.

1.2 BACKGROUND

The District water system relies solely upon groundwater for its water supply. The water supply is provided by eight existing wells, see Figure 1 below.

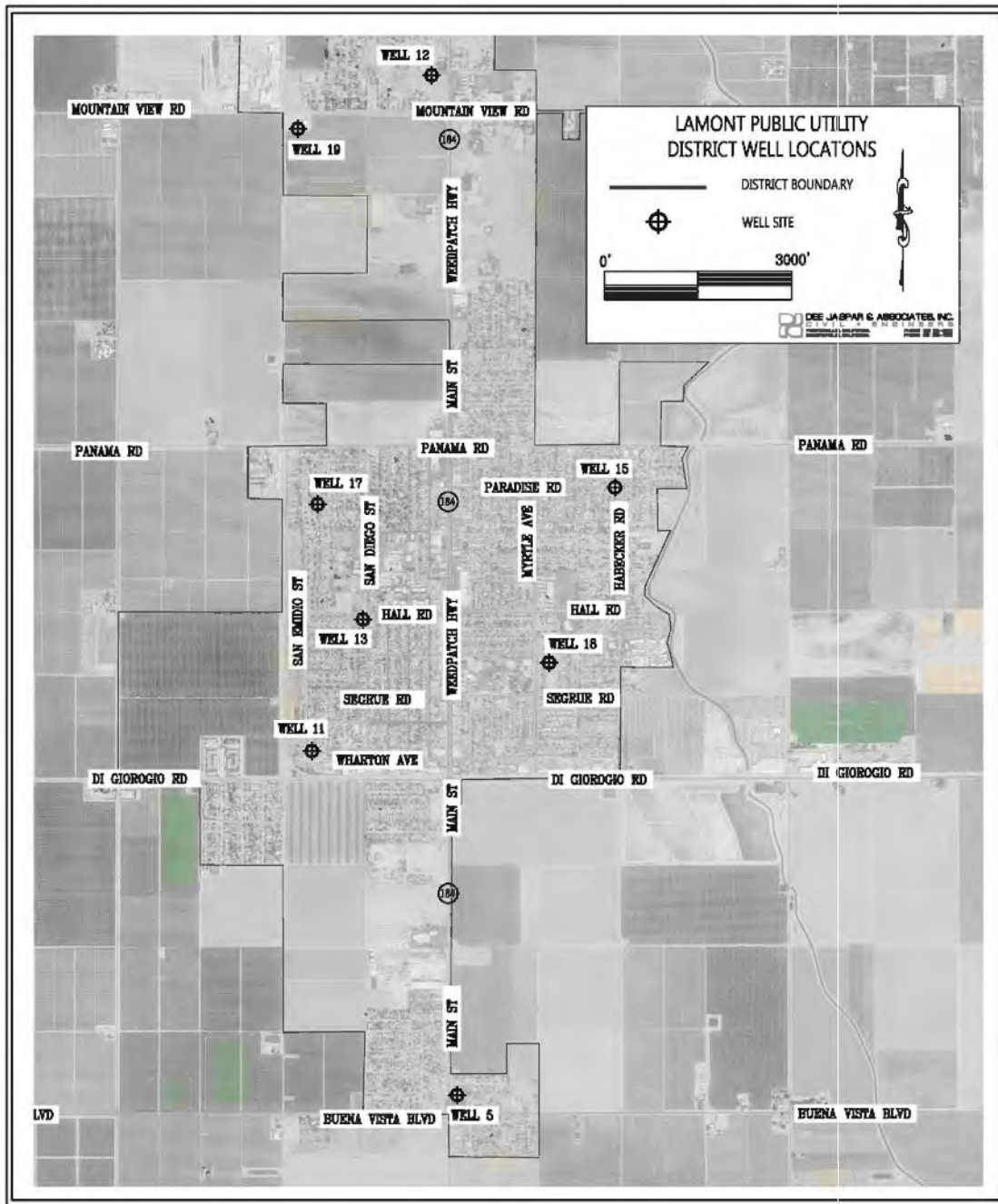


Figure 1: Well Location Map

The primary groundwater concerns in the Lamont area are Arsenic and 1,2,3-TCP. Of the eight water wells, only one of the wells meets all the Title 22 Drinking Water Standards – Well No. 15. Two of the wells, Well No. 12 and No. 19 are at or near the MCL for Arsenic. The remaining five wells, Well No.'s 5, 11, 13, 17, and 18, exceed the MCL for 1,2,3-TCP, however, Wells 17 & 18 already have GAC treatment installed for the removal of 1,2,3-TCP.

Well No. 17 has four (4) GAC vessels installed with two treatment trains in series. Each treatment train treats approximately 600 gpm. Well No. 18 also has four (4) GAC vessels installed with two treatment trains in series. Each treatment train treats approximately 575 gpm.

II. SECTION 2 – WATER SYSTEM INFORMATION

2.1 WATER SYSTEM FACILITIES

The State Water Board is the jurisdiction that governs the Lamont Public Utility District water system.

The Lamont Public Utility District water system consists of approximately thirty-eight (38) miles of water pipelines ranging in size from 4-inch to 12-inch diameter. As mentioned above the water system is supplied by eight water wells. The well and well facility infrastructure are outlined in Table 1 below.

Table 1
Water Supply Summary

Lamont Public Utility District									
Well Summary									
Well No.	Location	Year Drilled	Well Age	Casing Size	Total Depth	Perforated Interval	Capacity	Water Quality Issues	Storage Capacity
5	Weedpatch Hwy & Maxey Drive	1967	52 yrs	16"	750-ft		1,100 gpm	1,2,3-TCP	125,000 Gallons
11	San Emidio St. & Wharton Ave	1967	52 yrs	16"	800-ft		1,100 gpm	1,2,3-TCP	-
12	Hwy 184 & Mountain View Rd	1974	45 yrs				1,200 gpm	Arsenic	-
13	San Diego St. & Hall Road	1972	47 yrs	16"	702-ft	342-702 ft	1,000 gpm	1,2,3-TCP	125,000 Gallons
15	Habecker Rd & Paradise Rd	1992	27 yrs				1,400 gpm		350,000 Gallons
17	San Fernando St & Ribier Ave	2004	15 yrs				1,200 gpm	TCP Treatment	-
18	Williams St & Palm Ave	2005	14 yrs				1,150 gpm	TCP Treatment	-
19	Mountain View Rd	2014	5 yrs	16"	850-ft	470-830 ft	1,300 gpm	Arsenic	500,000 Gallons

The Lamont Public Utility District is also considering the consolidation of the El Adobe Property Owner’s Association, Inc. (EAPOA) at the request of the State Water Board. The EAPOA is located approximately two-miles west of the community of Lamont in the west half of Section 10, T31S, R28E, in the unincorporated area of Kern County, California.

2.2 POPULATION GROWTH

The Lamont Public Utility District population and water service connections have been estimated based upon figures reported in the Urban Water Management Plan. There are approximately 3,307 municipal connections consisting of:

- 2,478 Residential Connections
- 611 Multifamily Connections
- 210 Commercial Connections
- 8 Industrial Connections

According to the most recent demographics data available from the Census Bureau released in December of 2018, the population of Lamont is approximately 15,597.

The population percent change for Lamont from 2010 to 2017 is approximately 3.2% of growth.

If the EAPOA were added to the LPUD it would increase the estimated population by approximately 250 persons and the residential connections by approximately 81.

2.3 WATER DEMAND

The District water demands have been estimated based upon actual well production meter reads. Data from the last ten years, 2009 through 2018, was utilized.

The monthly usage data was utilized in accordance with Chapter 16 of the California Waterworks Standards. The highest water usage or maximum month was listed in total gallons for each year (typically July). The average day demand (ADD) was calculated by dividing by the number of days in that given month and then converting to a flow rate in gallons per minute. The maximum day demand (MDD) was calculated by multiplying the ADD by a peaking factor of 1.5. The peak hour demand (PHD) was calculated by multiplying the MDD by a peaking factor of 1.5.

Table 2
Water Demand Summary

<i>Year</i>	<i>Peak Month Production</i>	<i>Average Day Demand</i>	<i>Maximum Day Demand</i>	<i>Peak Hour Demand</i>
2009	163,501,000 gallons	3,663 gpm	5,494 gpm	8,241 gpm
2010	145,081,700 gallons	3,250 gpm	4,875 gpm	7,313 gpm
2011	159,860,400 gallons	3,581 gpm	5,372 gpm	8,057 gpm
2012	156,767,000 gallons	3,512 gpm	5,268 gpm	7,902 gpm
2013	164,017,300 gallons	3,674 gpm	5,511 gpm	8,267 gpm
2014	148,136,100 gallons	3,318 gpm	4,978 gpm	7,467 gpm
2015	113,494,600 gallons	2,542 gpm	3,814 gpm	5,720 gpm
2016	127,312,700 gallons	2,852 gpm	4,278 gpm	6,417 gpm
2017	136,783,600 gallons	3,064 gpm	4,596 gpm	6,894 gpm
2018	143,139,200 gallons	3,207 gpm	4,810 gpm	7,215 gpm
			Low PHD:	5,720 gpm

			Hi PHD:	8,267 gpm
			Avg PHD:	7,349 gpm
	Avg. Well Run Time (hrs per day):			8.30

The average peak hour demand for the last ten years has been approximately 7,349 gpm with a peak of 8,267 gpm over the last ten years.

The maximum day demand for the District occurred in 2013 and was approximately 7,935,840 gallons.

The addition of the EAPOA is anticipated to increase the peak hour municipal demand by approximately 205 gpm for a total peak hour demand on the District of 8,470 gpm.

2.4 WATER SUPPLY

The District water supply consists of eight existing water supply wells with a total system capacity of 9,450 gpm. This is greater than the average peak hour demand of the last ten years that was 7,349 gpm. It is also greater than the highest peak hour demand of 8,267 gpm experienced over the last ten years.

The available District water supply capacity is also greater than the average peak hour demand of 7,349 gpm with the largest water supply well inactive, i.e. $9,450 \text{ gpm} - 1,400 \text{ gpm} = 8,050 \text{ gpm}$.

The total storage capacity for the District is approximately 1,100,000 gallons. If the highest peak hour demand over the last ten years, 8,267 gpm, occurred while the largest District well were inoperable (District capacity of 8,050 gpm), the District could meet that peak hour demand utilizing storage, i.e. $8,267 \text{ gpm} - 8,050 \text{ gpm} = 217 \text{ gpm}$.

Furthermore, if the two largest wells were inoperable at the same time for any reason the District well capacity would be approximately 6,750 gpm. This equates to a maximum day capacity of 9,720,000 gallons which is greater than the highest maximum day demand in the last ten years of 7,935,840 gallons. The peak hour capacity would have a shortfall of approximately 1,517 gpm, i.e. $8,267 \text{ gpm} - 6,750 \text{ gpm}$. The available storage capacity of 1,100,000 gallons again would provide adequate supply to make up the deficit of 1,517 gpm as it could provide up to 8 hours of supply to get through the peak period. As demand dropped off, the tanks would be re-filled.

The Lamont Public Utility District water system was also modeled using WaterCad V8i. The system was modeled under a peak hour demand of approximately 7,725 gpm. The system pressure ranges between 55 psig to 78 psig. In addition, the system is able to meet the fire flow requirements of 500 gpm for residential and 1,500 gpm for commercial/industrial.

2.5 WATER QUALITY

The well water quality data from 2014 through second quarter of 2019 was evaluated for each of the water supply wells. The two primary constituents of concern are 1,2,3-TCP and Arsenic. Table 3 and 4 summarizes the data.

Table 3
1,2,3-TCP Summary

	Well No. 5	Well No. 11	Well No. 12	Well No. 13	Well No. 15	Well No. 17	Well No. 18	Well No. 19
Low TCP	41 ppt	12 ppt	<5 ppt	9.5 ppt	<5 ppt	5 ppt	36 ppt	<5 ppt
Hi TCP	81 ppt	27 ppt	<5 ppt	42 ppt	<5 ppt	18 ppt	80 ppt	11 ppt
Avg. TCP	68 ppt	18 ppt	<5 ppt	24 ppt	<5 ppt	10 ppt	52 ppt	1 ppt
MCL Exceedance						**	**	

Years 2014 – 2nd Quarter 2019

1,2,3-TCP MCL = 5 ppt

Shaded Box = Well that exceeds MCL for 1,2,3-TCP

** These two wells already have treatment installed for 1,2,3-TCP removal.

Table 4
Arsenic Summary

	Well No. 5	Well No. 11	Well No. 12	Well No. 13	Well No. 15	Well No. 17	Well No. 18	Well No. 19
Low Arsenic	6.7 ppb	3.7 ppb	3.5 ppb	3.4 ppb	7.4 ppb	4.1 ppb	3.5 ppb	4.2 ppb
Hi Arsenic	8.1 ppb	5.0 ppb	12.0 ppb	4.5 ppb	9.7 ppb	5.7 ppb	4.1 ppb	13.0 ppb
Avg. Arsenic	7.3 ppb	4.4 ppb	10.0 ppb	4.0 ppb	7.8 ppb	4.9 ppb	3.8 ppb	9.7 ppb
MCL Exceedance								

Years 2014 – 2nd Quarter 2019

Arsenic MCL = 10 ppb

Shaded Box = Well that exceeds MCL for Arsenic

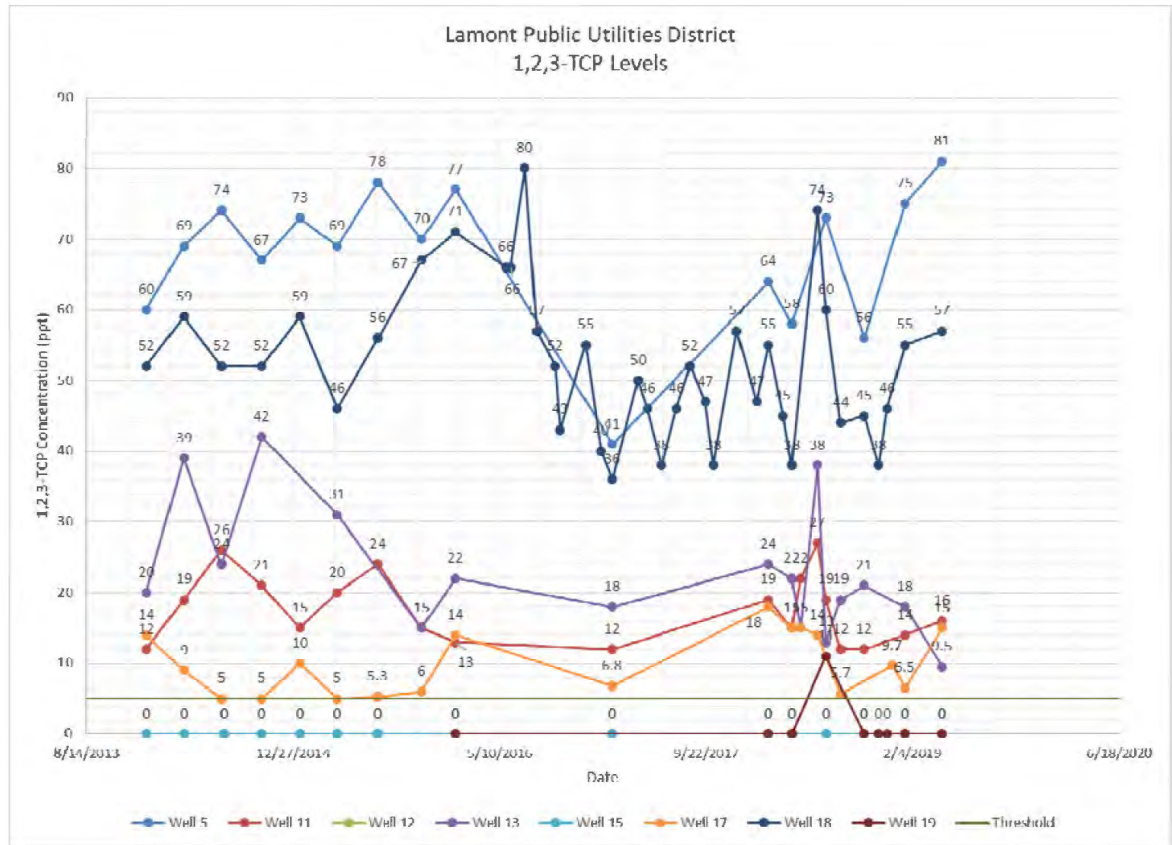


Figure 2: TCP Chart

Five of the existing eight water supply wells exceed the MCL for 1,2,3-TCP, however well head treatment using granular activated carbon (GAC) is already installed at Well No. 17 and Well No. 18. Therefore three wells, Well No. 5, Well No. 11, and Well No. 13 must be addressed for 1,2,3-TCP.

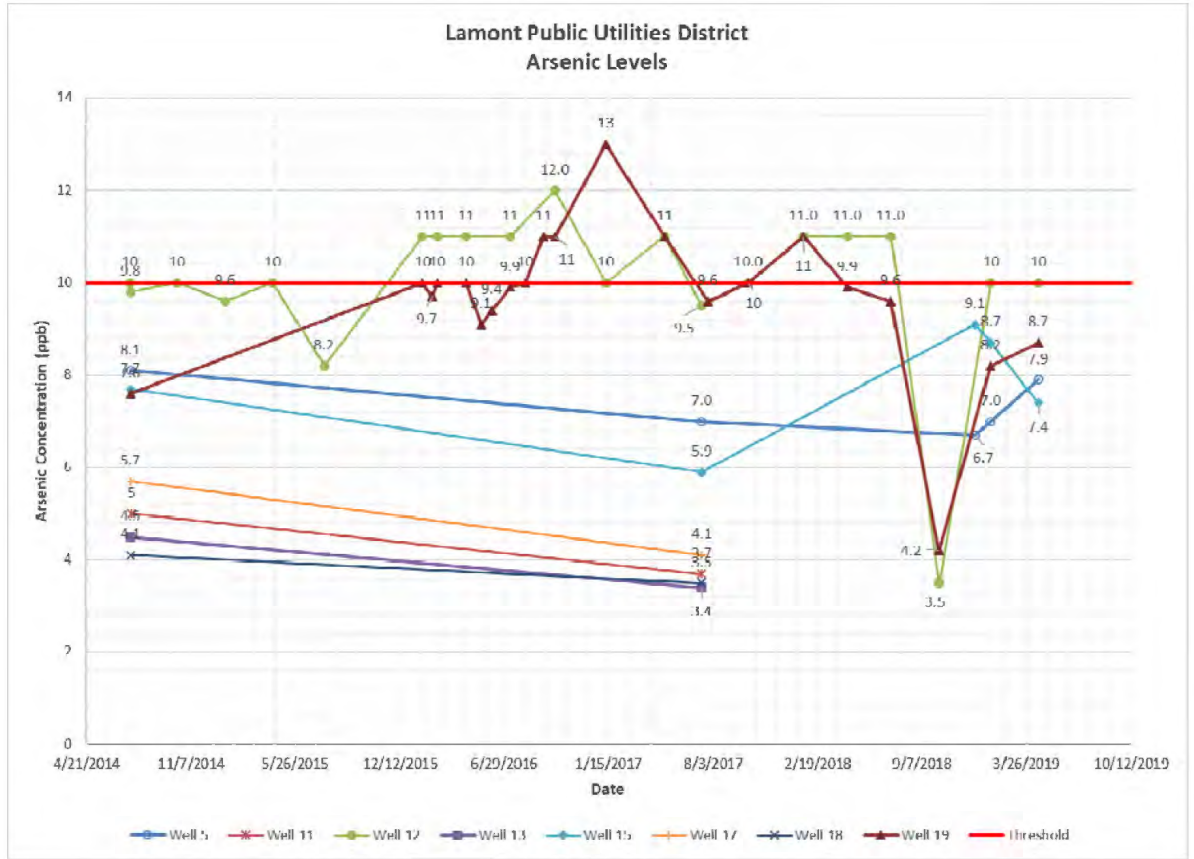


Figure 3: Arsenic Chart

Two of the existing eight wells, Well No. 12 and Well No. 19, have exceeded the MCL for Arsenic in the past five years. However, the running average of the last four quarters for Arsenic is 8.6 ppb for Well No. 12 and 7.7 ppb for Well No. 19, but the average over the last five years for both wells is right at the MCL when rounding up and is cause for concern.

The EAPOA has two existing wells. Well No. 1 is excessively high for Specific Conductance (EC) at approximately 2,000 uhmos/cm and has exceeded the MCL of 10 ppb for Arsenic in the past. Well No. 2 has averaged approximately 20 ppb for Arsenic. The water system was issued a Notice of Violation on September 27, 2010 for violation of the Arsenic maximum contaminant level per Compliance Order No. 03-19-100-002.

2.6 SYSTEM DEFICIENCIES

The Lamont Public Utility District water system deficiencies or needs are outlined below:

Water Capacity/Storage:

The current water demand is discussed under Section 2.3 and indicates that the current system capacity of approximately 9,450 gpm is adequate for meeting the water system demands. In addition, the District storage capacity of 1,100,000 also appears adequate.

Water Quality:

Water quality is the greatest concern at the moment for the District. Three wells currently exceed the MCL for 1,2,3-TCP (Well No.'s 5, 11, and 13) and two other wells have had compliance orders issued for exceeding the MCL for Arsenic (Well No.'s 12 and 19).

Well Ages:

Aging wells are also a concern for the District. The typical useful life for a water well is 50 to 60 years. Four of the District wells are near their useful life.

- Well No. 5 52 years
- Well No. 11 52 years
- Well No. 12 45 years
- Well No. 13 47 years

In addition, all four of these wells have water quality issues as noted above. It does not seem wise to invest significant amounts of money into treatment at these well sites when they are so near the end of their useful life.

Other:

The District system is in need of upgrades. The most pressing issue at this time is system monitoring. The District is in need of a SCADA system for operating of their facilities, alarming, and remote monitoring. The SCADA system would include the installation of PLC's at each site including programming, installation of radio antennas and hardware, and installation of a Master Control Center with computer hardware and software utilizing a platform such as Ignition.

The District is also in need of accurate mapping of their system so that they can locate valves for shutoffs in the event of pipe breaks and general system information. It is recommended that the District survey in all known valves, hydrants, and meters and establish a GIS system for the District.

III. SECTION 3 – PROBLEM DESCRIPTION

The District currently has water quality issues in five of the eight existing water supply wells. The following compliance orders have been issued to the District by the State Water Board:

- Compliance Order No. 03-12-08O-039 was issued on December 18, 2008 for non-compliance with the Arsenic MCL for Well No. 12.
- Compliance Order No. 03-12-17R-001 was issued on May 15, 2017 for exceedance of the Arsenic MCL for Well No. 19.
- Compliance Order No. 03-12-18R-021 was issued on May 18, 2018 for non-compliance with the 1,2,3-TCP MCL for Well No. 5, Well No. 11, Well No. 13, and Well No. 17. However since that time well head treatment has been installed at Well No. 17 and is operational.

IV. SECTION 4 – TREATMENT ALTERNATIVES

4.1 NO PROJECT ALTERNATIVE

The “no project alternative” is an alternative where the District elects to not do anything. However this alternative is not acceptable to the District or to the State Water Board as 1,2,3-TCP and Arsenic are regulated contaminants and pose a health risk to the community.

4.2 CONSOLIDATION WITH A NEARBY WATER SYSTEM

The Lamont Public Utility District supplies the water service and the wastewater service to the entire City of Lamont. They are the largest water supplier in the area and there are not any feasible options for consolidation with a nearby water system.

4.3 ALTERNATE WATER SUPPLY

An alternative water supply such as a surface water supply and surface water treatment plant is not feasible. Surface water is currently not available. Potential surface water suppliers would be the Arvin Edison Water Storage District or the Kern Delta Water District, however a surface water treatment plant does not exist and the Districts are not able to guarantee a year round surface water supply.

4.4 BLENDING

The blending of water sources can sometimes be an alternative for reducing the levels of contaminants below their respective MCL’s. Blending was previously implemented to address the Arsenic issue by blending Well No. 12 with Well No. 19. A dedicated pipeline was installed from Well No. 12 over to Well No. 19 and the water blended in a storage tank prior to discharging to the distribution system.

However the Arsenic levels have increased in Well No. 19 to the point where blending is no longer feasible.

Blending is not feasible for 1,2,3-TCP because the MCL has been established at the detection limit of 0.005 ppb. This means that any level of 1,2,3-TCP in the water will exceed the MCL and therefore blending of a non-detect source with a source that contains 1,2,3-TCP will still exceed the MCL.

4.5 WELL HEAD TREATMENT

Well head treatment involves the installation of 1,2,3-TCP treatment at each of the three remaining well sites that exceed the MCL for 1,2,3-TCP and also includes the installation of Arsenic treatment at approximately two other well sites.

The treatment system for 1,2,3-TCP is Granular Activated Carbon (GAC). GAC adsorption has been utilized for many years for a wide variety of organic chemical contaminants such as synthetic organic chemicals and pesticides. GAC technology is well understood and is considered by the State Water Board to be a best available technology (BAT) for removal of 1,2,3-TCP.

Contaminant adsorption by GAC is primarily a physical process involving Van Der Waals-type forces. GAC's highly porous structure provides a large surface area for contaminant adsorption. Adsorption is a dynamic process with rapid formation and breaking of bonds between the contaminant and the GAC surface. Within a carbon bed, this dynamic process results in the formation of an adsorption wave known as the mass transfer zone (MTZ). The MTZ propagates through the GAC bed until contaminant breakthrough into the bed effluent occurs.

The GAC usage rate and changeout frequency is dependent on a number of variables. The largest component of the treatment plant's annual O&M expenses is typically the media replacement or GAC changeout.

The treatment alternatives for Arsenic removal include Ion Exchange, Adsorption, and Coagulation-Filtration. Adsorption is typically the most cost effective from a capital standpoint, however the life of the media depends largely on the concentrations of other contaminants in the water. For purposes of this study, Coagulation-Filtration has been considered. The reason for this is that it generally results in the lowest annual O&M cost. Prior to actually proceeding with the design of Arsenic treatment, it is recommended that a pilot study be performed to determine the best treatment system for each well.

4.5.1 WELL NO. 5

Well No. 5 is located at the south end of Lamont on the east side of Weedpatch Hwy (or Main Street) approximately 150-ft south of Maxey Drive. The well site dimensions are approximately 50-ft by 180-ft and the site is space constrained as the site is already equipped with a well, 125,000 gallon steel tank, booster pump station, pressure vessel, and generator.

In order to install 1,2,3-TCP Treatment at Well No. 5, the District will need to purchase additional property. There is a vacant lot directly adjoining the well site to the north, APN 188-290-32. This property appears to be owned by Alejandro and Maria Guzman. This property has an approximate value of \$125,000. There is also a vacant lot across the street on the west side of Weedpatch Hwy (or Main Street) on

the south side of Whitlock Lane, APN 187-102-33. This property appears to be owned by Roman and Aide Nunez. This property has an approximate value of \$50,000.

The installation of 1,2,3-TCP will involve modifying the well discharge piping, installing conveyance piping to the new property, construction of a reinforced concrete foundation, installation of GAC vessels, installation of influent, effluent, and backwash piping, backwash tank, installation of electrical, and installation of a conveyance pipeline to connect back to the tank inlet piping.



Figure 4: Well No. 5 Treatment Site Plan

For purposes of this evaluation, Model 10 (10-ft diameter) GAC vessels have been used. However Model 8 vessels or Model 12 vessels are also available. The vessels are rated to operate at approximately 500 gpm to 750 gpm per vessel which equates to a surface loading of 6.37 gpm/sq. ft to 9.55 gpm/sq. ft and an empty bed contact time of 7.5 minutes to 11.2 minutes.

Well No. 5 has a capacity of approximately 1,100 gpm therefore this would require two vessels if installed in parallel and four vessels if installed in series. Series installation is recommended such that the carbon is fully utilized and the well does not have to be removed from service for carbon change-outs.

The estimated capital cost for series installation is \$2,473,850.00.

Well #5 1,2,3-TCP Well Head Treatment (Series)					
Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 130,000.00	\$ 130,000.00
2	Implement Utility Locating and Site Demolition	1	LS	\$ 40,000.00	\$ 40,000.00
3	Modify Existing Well Discharge Piping	1	LS	\$ 15,000.00	\$ 15,000.00
4	Furnish & Install 10" C900 DR18 PVC Pipe from Well to Treatment System	200	LF	\$ 80.00	\$ 16,000.00
5	TCP Site Earthwork and Subgrade Preparation	1	LS	\$ 30,000.00	\$ 30,000.00
6	GAC Concrete Foundation and Anchor Bolts	1	LS	\$ 110,000.00	\$ 110,000.00
7	GAC Vessel Purchase & Installation	4	EA	\$ 190,000.00	\$ 760,000.00
8	GAC Vessel Influent Piping and Appurtenances	1	LS	\$ 120,000.00	\$ 120,000.00
9	GAC Vessel Effluent Piping and Appurtenances	1	LS	\$ 110,000.00	\$ 110,000.00
10	GAC Vessel Backwash Piping and Appurtenances	1	LS	\$ 75,000.00	\$ 75,000.00
11	Backwash Tank, Piping, and Appurtenances	1	LS	\$ 200,000.00	\$ 200,000.00
12	Backwash Drain Line to Sewer System	1	LS	\$ 100,000.00	\$ 100,000.00
13	Furnish & Install 10" C900 DR18 PVC Pipe from Treatment to Storage Tank	200	LF	\$ 80.00	\$ 16,000.00
14	Furnish & Install Backwash Connection to Distribution System	1	LS	\$ 15,000.00	\$ 15,000.00
15	Site Drain Piping and Appurtenances	1	LS	\$ 50,000.00	\$ 50,000.00
16	Site Painting	1	LS	\$ 10,000.00	\$ 10,000.00
17	Site Fencing and Drive Gates	1	LS	\$ 30,000.00	\$ 30,000.00
18	Site Ground Cover	1	LS	\$ 20,000.00	\$ 20,000.00
19	Site Electrical and Controls	1	LS	\$ 100,000.00	\$ 100,000.00
20	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
				1,2,3-TCP Well Head Treatment Subtotal Cost:	\$ 1,957,000.00
				Project Contingency:	\$ 195,700.00
				Land Acquisition:	\$ 150,000.00
				Labor Compliance:	\$ 15,000.00
				Permitting and Compliance:	\$ 5,000.00
				Construction Surveying & Staking:	\$ 8,000.00
				Bid Advertisement & Legal:	\$ 5,000.00
				Engineering Design:	\$ 52,000.00
				Construction Inspection & Administration:	\$ 86,150.00
				Total Project Estimate:	\$ 2,473,850.00

The estimated annual O&M cost for series treatment is estimated as \$79,800.00.

1,2,3-TCP Treatment System Project					
Item No.	Item Description	Quantity	Unit	Unit Cost	Annualized Cost
<i>Well No. 5</i>					
1	Media Replacement - 40,000 lbs	LS	1	\$60,000.00	\$ 60,000.00
2	District Costs for Media Replacement	LS	1	\$2,000.00	\$ 2,000.00
3	Energy Cost Increase	LS	1	\$8,250.00	\$ 8,250.00
4	Flow Meter Calibration every 3 years	EA	1	\$850.00	\$ 850.00
5	Pressure Gauge Replacement every 1 yr	EA	8	\$150.00	\$ 1,200.00
6	Valve Replacement every 10 years	EA	20	\$150.00	\$ 3,000.00
7	Receptor Changeout every 3rd Changeout	LS	4	\$500.00	\$ 2,000.00
8	Additional Water Quality Testing	LS	1	\$2,500.00	\$ 2,500.00
				Subtotal:	\$ 79,800.00

Well No. 5	Series Treatment
Capital Cost	\$2,473,850.00
O&M Cost	\$79,800.00

4.5.2 WELL NO. 11

Well No. 11 is located on the east side of San Emidio Street approximately 100-ft north of Wharton Avenue. The well site dimensions are approximately 50-ft by 130-

ft and the site is space constrained as it is already equipped with a well, pressure vessel, and electrical equipment.

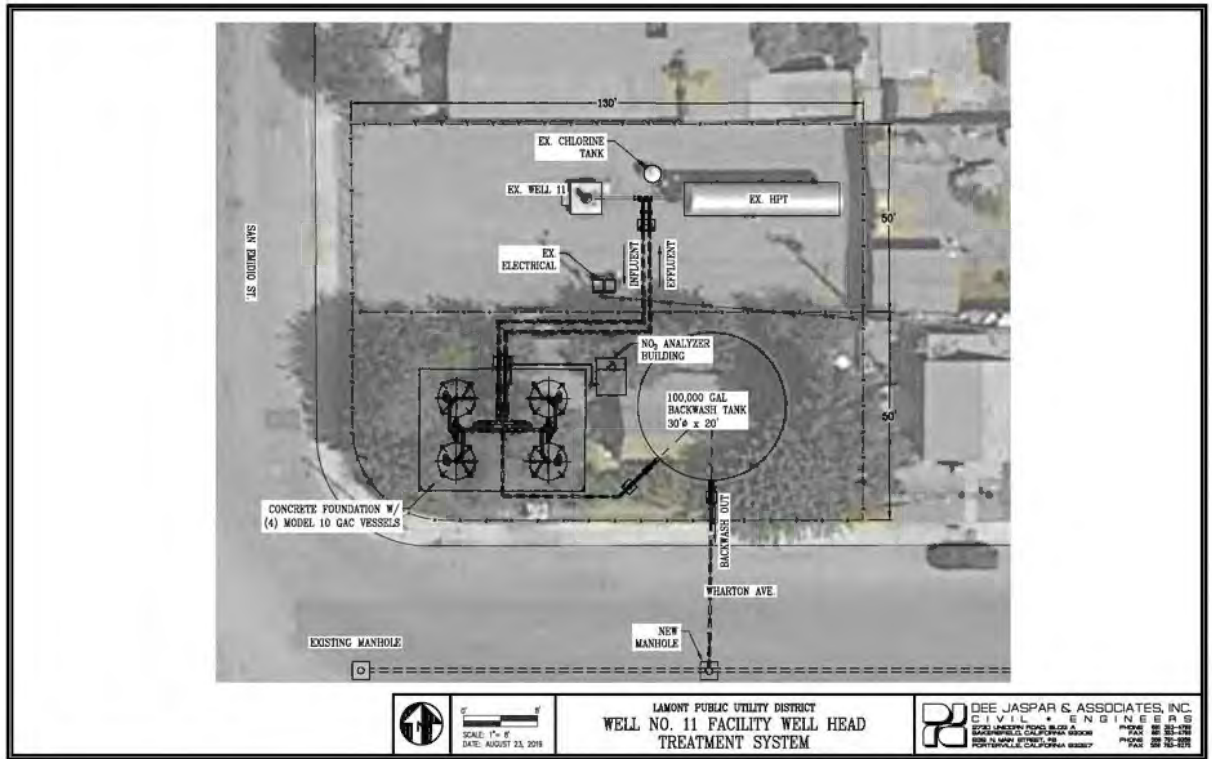


Figure 5: Well No. 11 Treatment Site Plan

In order to install 1,2,3-TCP Treatment at Well No. 11, the District will need to purchase additional property. The property is completely surrounded by residential properties which makes the installation of treatment very difficult. However the residential property values in the area of the well site range from \$73,000 to \$152,000 according to Zillow, Inc.

The installation of 1,2,3-TCP will involve modifying the well discharge piping, installing conveyance piping to the new property, construction of a reinforced concrete foundation, installation of GAC vessels, installation of influent, effluent, and backwash piping, backwash tank, installation of electrical, and installation of conveyance piping to connect to the existing distribution system.

For purposes of this evaluation, Model 10 (10-ft diameter) GAC vessels have been used. However Model 8 vessels or Model 12 vessels are also available. The vessels are rated to operate at approximately 500 gpm to 750 gpm per vessel which equates to a surface loading of 6.37 gpm/sq. ft to 9.55 gpm/sq. ft and an empty bed contact time of 7.5 minutes to 11.2 minutes.

Well No. 11 has a capacity of approximately 1,100 gpm therefore this would require two vessels if installed in parallel and four vessels if installed in series. Series installation is recommended such that the carbon is fully utilized and the well does not have to be removed from service for carbon change-outs.

The estimated capital cost for series installation is \$2,473,850.00.

Well #11 1,2,3-TCP Well Head Treatment (Series)					
Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 130,000.00	\$ 130,000.00
2	Implement Utility Locating and Site Demolition	1	LS	\$ 40,000.00	\$ 40,000.00
3	Modify Existing Well Discharge Piping	1	LS	\$ 15,000.00	\$ 15,000.00
4	Furnish & Install 10" C900 DR18 PVC Pipe from Well to Treatment System	200	LF	\$ 80.00	\$ 16,000.00
5	TCP Site Earthwork and Subgrade Preparation	1	LS	\$ 30,000.00	\$ 30,000.00
6	GAC Concrete Foundation and Anchor Bolts	1	LS	\$ 110,000.00	\$ 110,000.00
7	GAC Vessel Purchase & Installation	4	EA	\$ 190,000.00	\$ 760,000.00
8	GAC Vessel Influent Piping and Appurtenances	1	LS	\$ 120,000.00	\$ 120,000.00
9	GAC Vessel Effluent Piping and Appurtenances	1	LS	\$ 110,000.00	\$ 110,000.00
10	GAC Vessel Backwash Piping and Appurtenances	1	LS	\$ 75,000.00	\$ 75,000.00
11	Backwash Tank, Piping, and Appurtenances	1	LS	\$ 200,000.00	\$ 200,000.00
12	Backwash Drain Line to Sewer System	1	LS	\$ 100,000.00	\$ 100,000.00
13	Furnish & Install 10" C900 DR18 PVC Pipe from Treatment to Storage Tank	200	LF	\$ 80.00	\$ 16,000.00
14	Furnish & Install Backwash Connection to Distribution System	1	LS	\$ 15,000.00	\$ 15,000.00
15	Well Site Drain Piping and Appurtenances	1	LS	\$ 50,000.00	\$ 50,000.00
16	Site Painting	1	LS	\$ 10,000.00	\$ 10,000.00
17	Site Fencing and Drive Gates	1	LS	\$ 30,000.00	\$ 30,000.00
18	Site Ground Cover	1	LS	\$ 20,000.00	\$ 20,000.00
19	Site Electrical and Controls	1	LS	\$ 100,000.00	\$ 100,000.00
20	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
				1,2,3-TCP Well Head Treatment Subtotal Cost:	\$ 1,957,000.00
				Project Contingency:	\$ 195,700.00
				Land Acquisition:	\$ 150,000.00
				Labor Compliance:	\$ 15,000.00
				Permitting and Compliance:	\$ 5,000.00
				Construction Surveying & Staking:	\$ 8,000.00
				Bid Advertisement & Legal:	\$ 5,000.00
				Engineering Design:	\$ 52,000.00
				Construction Inspection & Administration:	\$ 86,150.00
				Total Project Estimate:	\$ 2,473,850.00

The estimated annual O&M cost for series treatment is estimated as \$79,800.00.

1,2,3-TCP Treatment System Project					
Item No.	Item Description	Quantity	Unit	Unit Cost	Annualized Cost
<i>Well No. 11</i>					
1	Media Replacement - 40,000 lbs	LS	1	\$60,000.00	\$ 60,000.00
2	District Costs for Media Replacement	LS	1	\$2,000.00	\$ 2,000.00
3	Energy Cost Increase	LS	1	\$8,250.00	\$ 8,250.00
4	Flow Meter Calibration every 3 years	EA	1	\$850.00	\$ 850.00
5	Pressure Gauge Replacement every 1 yr	EA	8	\$150.00	\$ 1,200.00
6	Valve Replacement every 10 years	EA	20	\$150.00	\$ 3,000.00
7	Receptor Changeout every 3rd Changeout	LS	4	\$500.00	\$ 2,000.00
8	Additional Water Quality Testing	LS	1	\$2,500.00	\$ 2,500.00
				Subtotal:	\$ 79,800.00

Well No. 11	Series Treatment
Capital Cost	\$2,473,850.00
O&M Cost	\$79,800.00

4.5.3 WELL NO. 12

Well No. 12 is located approximately 300-ft west of Highway 184 and approximately 600-ft north of Mountain View Road. The well site dimensions are approximately 50-ft by 130-ft. The site includes a well pump and motor, discharge piping, and electrical.

Well No. 12 already has a dedicated 12-inch raw water pipeline installed over to Well No. 19 for blending purposes to address the Arsenic issue. Since Well No. 19 already has a 500,000 gallon storage tank, booster pump station, and available real estate, it is recommended that any treatment for Well No. 12 be installed at the Well No. 19 site.

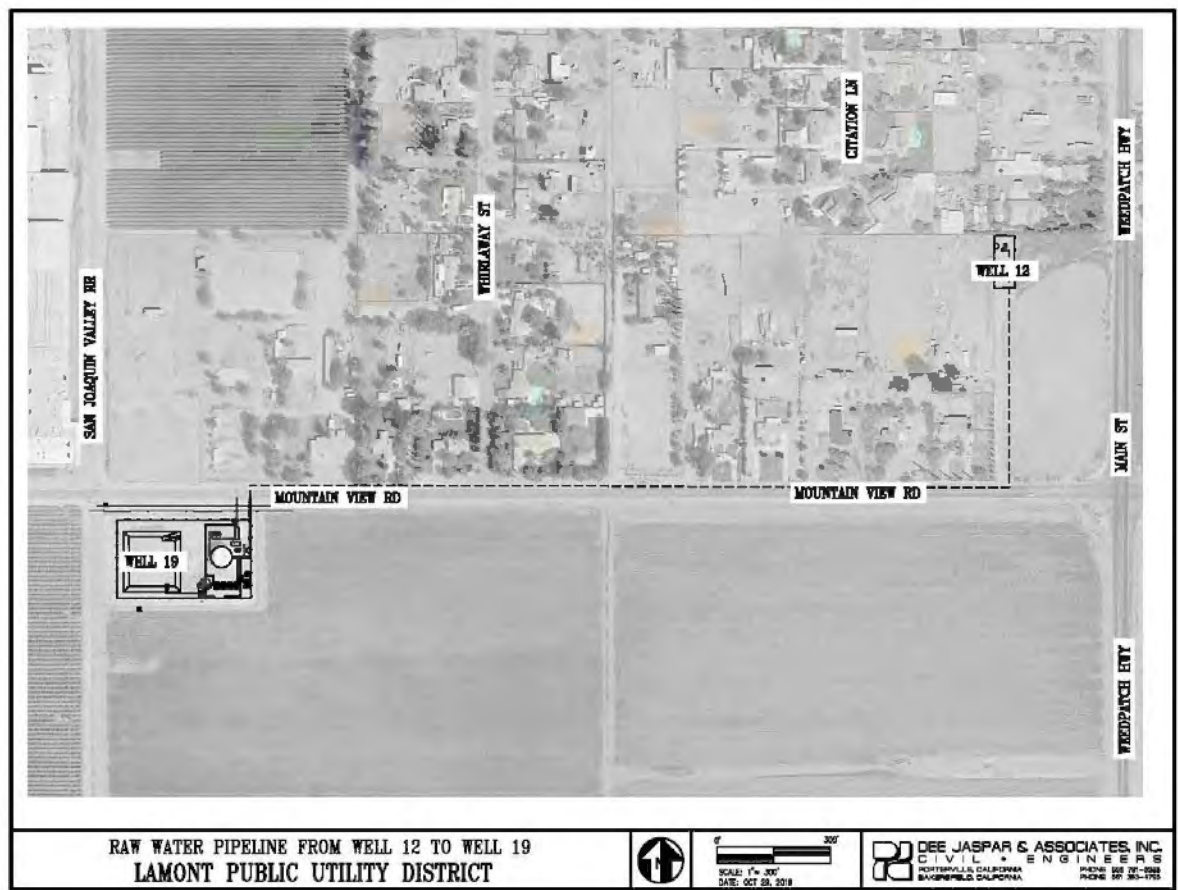


Figure 6: Well No. 12 to Well No. 19 Blending Line

4.5.4 WELL NO. 13

Well No. 13 is located on the southwest corner of San Diego Street and Hall Road. The well site dimensions are approximately 100-ft by 120-ft and the site is space constrained as it is already equipped with a well, 125,000 gallon steel storage tank, booster pump station, pressure vessel, and electrical equipment.

In order to install 1,2,3-TCP Treatment at Well No. 13, the District will need to purchase additional property. There is vacant property across the street on the northwest corner of Hall Road and San Diego Street, APN 186-080-05. The property appears to be owned by Chipres Prop, LLC. The value of the property is approximately \$101,000.00 according to Zillow, Inc. In addition, the District could propose to purchase only a portion of this property for the treatment site leaving the corner of the parcel for future development.

The installation of 1,2,3-TCP will involve modifying the well discharge piping, installing conveyance piping to the new property, crossing Hall Road, construction of a reinforced concrete foundation, installation of GAC vessels, installation of influent, effluent, and backwash piping, backwash tank, installation of electrical, and installation of conveyance piping to cross Hall Road and connect back to the Well #13 booster pump station discharge piping.

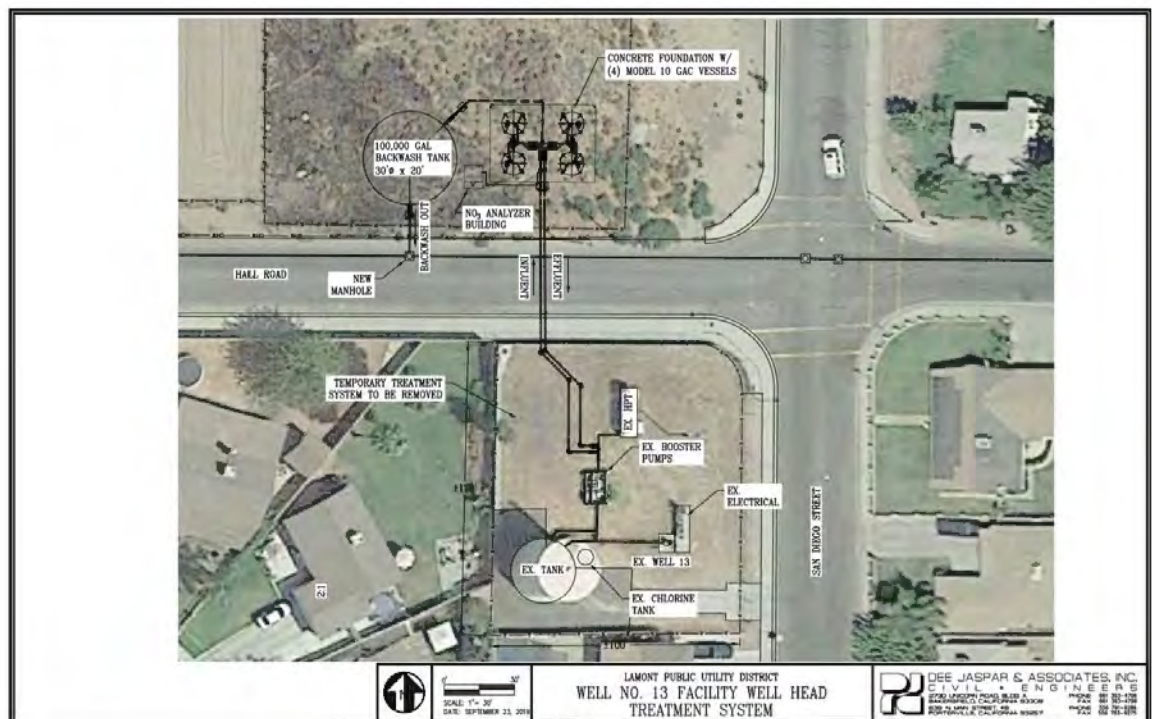


Figure 7: Well No. 13 Treatment Site Plan

For purposes of this evaluation, Model 10 (10-ft diameter) GAC vessels have been used. However Model 8 vessels or Model 12 vessels are also available. The vessels are rated to operate at approximately 500 gpm to 750 gpm per vessel which

equates to a surface loading of 6.37 gpm/sq. ft to 9.55 gpm/sq. ft and an empty bed contact time of 7.5 minutes to 11.2 minutes.

Well No. 13 has a capacity of approximately 1,000 gpm therefore this would require two vessels if installed in parallel and four vessels if installed in series. Series installation is recommended such that the carbon is fully utilized and the well does not have to be removed from service for carbon change-outs.

The estimated capital cost for series installation is \$2,568,450.00.

Well #13 1.2,3-TCP Well Head Treatment (Series)					
Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 130,000.00	\$ 130,000.00
2	Implement Utility Locating and Site Demolition	1	LS	\$ 40,000.00	\$ 40,000.00
3	Modify Existing Well Discharge Piping	1	LS	\$ 15,000.00	\$ 15,000.00
4	Furnish & Install 10" C900 DR18 PVC Pipe from Well to Treatment System	200	LF	\$ 50.00	\$ 10,000.00
5	Furnish & Install Bore & Jack Cased Crossing at Hall Rd	60	LF	\$ 650.00	\$ 39,000.00
6	TCP Site Earthwork and Subgrade Preparation	1	LS	\$ 30,000.00	\$ 30,000.00
7	GAC Concrete Foundation and Anchor Bolts	1	LS	\$ 110,000.00	\$ 110,000.00
8	GAC Vessel Purchase & Installation	4	EA	\$ 190,000.00	\$ 760,000.00
9	GAC Vessel Influent Piping and Appurtenances	1	LS	\$ 120,000.00	\$ 120,000.00
10	GAC Vessel Effluent Piping and Appurtenances	1	LS	\$ 110,000.00	\$ 110,000.00
11	GAC Vessel Backwash Piping and Appurtenances	1	LS	\$ 75,000.00	\$ 75,000.00
12	Backwash Tank, Piping, and Appurtenances	1	LS	\$ 200,000.00	\$ 200,000.00
13	Backwash Drain Line to Sewer System	1	LS	\$ 100,000.00	\$ 100,000.00
14	Furnish & Install 10" C900 DR18 PVC Pipe from Treatment to Distribution System	200	LF	\$ 50.00	\$ 10,000.00
15	Furnish & Install Bore & Jack Cased Crossing at Hall Rd	60	LF	\$ 650.00	\$ 39,000.00
16	Furnish & Install Backwash Connection to Distribution System	1	LS	\$ 15,000.00	\$ 15,000.00
17	Well Site Drain Piping and Appurtenances	1	LS	\$ 50,000.00	\$ 50,000.00
18	Site Painting	1	LS	\$ 10,000.00	\$ 10,000.00
19	Site Fencing and Drive Gates	1	LS	\$ 30,000.00	\$ 30,000.00
20	Site Ground Cover	1	LS	\$ 20,000.00	\$ 20,000.00
21	Site Electrical and Controls	1	LS	\$ 100,000.00	\$ 100,000.00
22	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
				1.2,3-TCP Well Head Treatment Subtotal Cost:	\$ 2,023,000.00
				Project Contingency:	\$ 202,300.00
				Land Acquisition:	\$ 150,000.00
				Labor Compliance:	\$ 15,000.00
				Permitting and Compliance:	\$ 5,000.00
				Construction Surveying & Staking:	\$ 12,000.00
				Bid Advertisement & Legal:	\$ 5,000.00
				Engineering Design:	\$ 70,000.00
				Construction Inspection & Administration:	\$ 86,150.00
				Total Project Estimate:	\$ 2,568,450.00

The estimated annual O&M cost for series treatment is estimated as \$79,800.00.

1,2,3-TCP Treatment System Project					
Item No.	Item Description	Quantity	Unit	Unit Cost	Annualized Cost
<i>Well No. 13</i>					
1	Media Replacement - 40,000 lbs	LS	1	\$60,000.00	\$ 60,000.00
2	District Costs for Media Replacement	LS	1	\$2,000.00	\$ 2,000.00
3	Energy Cost Increase	LS	1	\$8,250.00	\$ 8,250.00
4	Flow Meter Calibration every 3 years	EA	1	\$850.00	\$ 850.00
5	Pressure Gauge Replacement every 1 yr	EA	8	\$150.00	\$ 1,200.00
6	Valve Replacement every 10 years	EA	20	\$150.00	\$ 3,000.00
7	Receptor Changeout every 3rd Changeout	LS	4	\$500.00	\$ 2,000.00
8	Additional Water Quality Testing	LS	1	\$2,500.00	\$ 2,500.00
Subtotal:					\$ 79,800.00

Well No. 13	Series Treatment
Capital Cost	\$2,568,450.00
O&M Cost	\$79,800.00

4.5.5 WELL NO. 19

The Well No. 19 Facility is located on the south side of Mountain View Road approximately 2,300-ft west of Highway 184. The existing well site is approximately 230-ft by 400-ft or approximately 2.0 acres.

The well is equipped with a vertical turbine pump and motor, 500,000 gallon welded steel storage tank, booster pumping station, hydropneumatic tank, site piping, electrical and control equipment and an emergency generator.

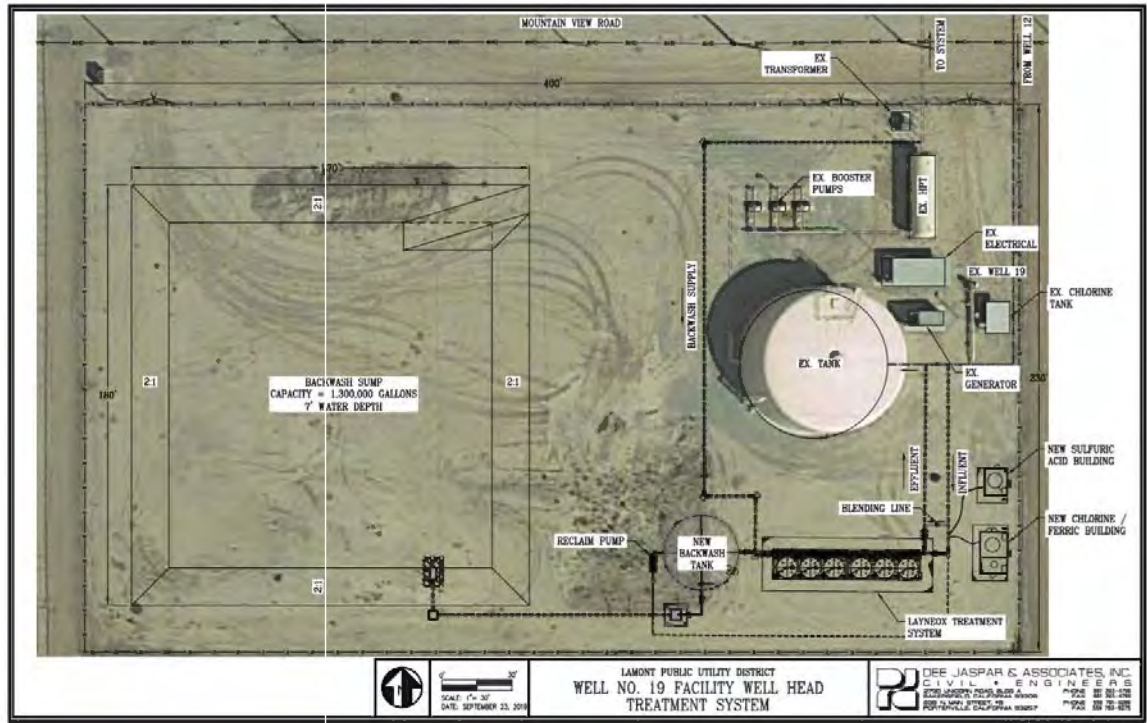


Figure 8: Well No. 19 Treatment Site Plan

It is proposed to construct an Arsenic treatment plant at the Well #19 site and utilize it to treat the raw water from Well #12 and Well #19 to remove Arsenic since they are already constructed to accomplish this.

A pilot study will need to be performed, prior to project design, to evaluate adsorption, ion exchange, and coagulation-filtration for the Arsenic removal at this location. However, for purposes of this evaluation, coagulation-filtration has been assumed for this facility. Coagulation-filtration is often times competitive with the other treatment technologies on a capital cost basis and substantially less cost on an annual basis for operations and maintenance.

Raw water will be conveyed from Well #12 and Well #19 and be combined in a pipeline to the Arsenic treatment plant. The raw water will be pretreated by chemical injection with sodium hypochlorite as a pre-oxidant, ferric chloride as a coagulant, and sulfuric acid to reduce the pH of the well water. The chemical storage tanks will each be equipped with ultrasonic level sensors to monitor chemical levels and send a low level signal to alarm the operator of low chemical levels. The raw water pH from Well #12 and #19 is approximately 8.0. To mitigate the lowering of the pH, a portion of the raw well water will bypass the treatment system and be blended with the treated effluent water to achieve a blended effluent pH above 7.5 into the distribution system.

The six vessel treatment system will operate continuously until the media is ready to backwash. During backwash, the booster station will pump treated effluent water

from the treated water storage tank to backwash the six filter vessels. While backwashing, the system will not produce treated water until the end of the backwash cycle. The backwash water will be sent to the backwash recovery storage tank. Once the level in the backwash recovery tank reaches a user adjustable setpoint, an automated drain valve will open to drain the tank to the sewer or to send the decant water back to the front of the treatment system (approximately 10% of the overall flow).

The treated effluent water will be stored in the existing 500,000-gallon storage tank and the existing booster pump station will operate to maintain pressure in the domestic distribution system.

The estimated capital cost for Arsenic treatment utilizing coagulation-filtration is \$4,583,000.00.

Well #12 & #19 Arsenic Treatment					
Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 200,000.00	\$ 200,000.00
2	Implement Utility Locating and Traffic Control Plan	1	LS	\$ 40,000.00	\$ 40,000.00
3	PVC Drain Line and Appurtenances, including connection to Existing Sewer Main	1	LS	\$ 105,000.00	\$ 105,000.00
4	Influent, Effluent, Backwash Waste & Backwash Supply Piping, Valves, Appurtenances, and Connections	1	LS	\$ 350,000.00	\$ 350,000.00
5	System Backwash Supply and Reclaim/Well Bypass Piping, Valves, Appurtenances, and Connections	1	LS	\$ 300,000.00	\$ 300,000.00
6	Reclaim Booster Pump Assembly, Concrete Foundations, Appurtenances, and Connections	1	LS	\$ 100,000.00	\$ 100,000.00
7	Blending Line and Appurtenances	1	LS	\$ 125,000.00	\$ 125,000.00
8	Treatment System Concrete Foundation and Anchor Bolts	1	LS	\$ 80,000.00	\$ 80,000.00
9	Skid Mounted LayneOx Water Treatment System including Piping, Valves, Appurtenances, and Connections	1	LS	\$ 1,500,000.00	\$ 1,500,000.00
10	Chlorine and Ferric Chloride FRP Storage Building including Epoxy Coated Foundation, Drain, A/C, Appurtenances, and Connections	1	LS	\$ 150,000.00	\$ 150,000.00
11	Sulfuric Acid FRP Storage Building including Epoxy Coated Foundation, A/C, Appurtenances, and Connections	1	LS	\$ 85,000.00	\$ 85,000.00
12	Double-walled 550 Gal. Sulfuric Acid Chemical Storage Tank including Duplex Chemical Feed Pumps, Containment, Appurtenances, & Connections	1	LS	\$ 30,000.00	\$ 30,000.00
13	Double-walled 550 Gal. Chlorine Storage Tank including Duplex Chemical Feed Pumps, Containment, Appurtenances, & Connections	1	LS	\$ 30,000.00	\$ 30,000.00
14	Double-walled 150 Gal. Ferric Chloride Storage Tank including Duplex Chemical Feed Pumps, Containment, Appurtenances, & Connections	1	LS	\$ 25,000.00	\$ 25,000.00
15	Concrete Ringwall Foundation, Aggregate Base, and Oiled Sand Cushion	1	LS	\$ 30,000.00	\$ 30,000.00
16	32" Diameter x 16' Tall AW/WA D103 Bolted Steel Storage Tank, Appurtenances, and Connections	1	LS	\$ 150,000.00	\$ 150,000.00
17	Well Site Drain Piping and Appurtenances	1	LS	\$ 50,000.00	\$ 50,000.00
18	Site Painting	1	LS	\$ 30,000.00	\$ 30,000.00
19	Site Ground Cover	1	LS	\$ 40,000.00	\$ 40,000.00
20	Site Electrical and Controls	1	LS	\$ 350,000.00	\$ 350,000.00
21	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
Centralized Arsenic Treatment Subtotal Cost:				\$	3,780,000.00
Project Contingency:				\$	378,000.00
Land Acquisition:				\$	-
Pilot Testing:				\$	100,000.00
Labor Compliance:				\$	30,000.00
Permitting and Compliance:				\$	5,000.00
Construction Surveying & Staking:				\$	15,000.00
Bid Advertisement & Legal:				\$	5,000.00
Engineering Design:				\$	105,000.00
Construction Inspection & Administration:				\$	165,000.00
Total Project Estimate:				\$	4,583,000.00

The annual operations and maintenance costs include media replacement, chemicals,

waste disposal, equipment calibration and maintenance, water quality testing, and increased energy cost. The estimated annual cost is \$135,110.00.

Arsenic Treatment System Project					
Item No.	Item Description	Quantity	Unit	Unit Cost	Annualized Cost
<i>Well No. 12 and 19</i>					
1	Media Replacement every 10 years	LS	1	\$10,000.00	\$ 10,000.00
2	District Costs for Media Replacement	LS	1	\$2,000.00	\$ 2,000.00
3	Energy Cost Increase due to Filters	LS	1	\$10,360.00	\$ 10,360.00
4	Energy Cost for Backwashing	LS	1	\$8,000.00	\$ 8,000.00
5	pH Adjustment	LS	1	\$30,000.00	\$ 30,000.00
6	Ferric Chloride Dosing	LS	1	\$5,000.00	\$ 5,000.00
7	Chlorine Dosing	LS	1	\$30,000.00	\$ 30,000.00
8	Backwash Waste Sludge Disposal	LS	1	\$25,000.00	\$ 25,000.00
9	Flow Meter Calibration every 3 years	EA	6	\$850.00	\$ 850.00
10	Pressure Gauge Replacement every 1 yr	EA	12	\$150.00	\$ 1,800.00
11	Valve Replacement every 10 years	EA	24	\$150.00	\$ 3,600.00
12	Analyzer Maintenance	LS	1	\$3,500.00	\$ 3,500.00
13	Additional Water Quality Testing	LS	1	\$5,000.00	\$ 5,000.00
Subtotal:					\$ 135,110.00

Well No. 19	Series Treatment
Capital Cost	\$4,583,000.00
O&M Cost	\$135,110.00

The well head treatment alternative costs are summarized below:

Well Head Treatment Alternative		
Well Facility	Capital Cost	O&M Cost
Well #5 TCP Treatment	\$2,473,850.00	\$79,800.00
Well #11 TCP Treatment	\$2,473,850.00	\$79,800.00
Well #12 As Treatment	See Well #19 Below	
Well #13 TCP Treatment	\$2,568,450.00	\$79,800.00
Well #19 As Treatment	\$4,583,000.00	\$135,110.00
Total:	\$12,099,150.00	\$374,510.00

4.6 CENTRALIZED TREATMENT

4.6.1 WELL NO. 11 AND WELL NO. 13

Centralized treatment has been considered briefly as well. Well No. 11 and No. 13 are close enough that a form of centralized treatment could be beneficial and would eliminate the need to purchase residential property around the Well No. 11 site. If centralized treatment were to be installed it would be recommended to do so on the vacant property across the street from Well No. 13 as described above under “Well Head Treatment”. This would involve installing a dedicated water line from Well No. 11 north along San Emidio Street approximately 3,100-ft to the above mentioned property and connecting that to a dedicated line from Well No. 13. The water would then be treated at a centralized treatment facility and conveyed back over to Well #13 to connect to the existing storage tank. The booster pump station and electrical would then need to be expanded to increase the output capacity from 1,100 gpm to approximately 2,100 gpm.

In addition, Well No. 12 and Well No. 19 are addressed under the Well Head Treatment Alternative, but they are essentially a centralized treatment for Arsenic and have been included herein as well.



Figure 9: Centralized Layout for 1,2,3-TCP Treatment for Well No. 11 and 13

For purposes of this evaluation, Model 10 (10-ft diameter) GAC vessels have been used. However Model 8 vessels or Model 12 vessels are also available. The vessels are rated to operate at approximately 500 gpm to 750 gpm per vessel which equates to a surface loading of 6.37 gpm/sq. ft to 9.55 gpm/sq. ft and an empty bed contact time of 7.5 minutes to 11.2 minutes.

Well No. 11 has a capacity of approximately 1,100 gpm and Well No. 13 a capacity of 1,000 gpm (2,100 gpm total) therefore this would require three vessels if installed in parallel and six vessels if installed in series. However it is recommended that centralized treatment be installed in series since taking the system down to replace media would mean that multiple wells (two) were out-of-service and this is not desirable.

The estimated capital cost for series installation is \$4,104,202.50.

Well #11 & #13 Centralized 1,2,3-TCP Treatment					
Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 130,000.00	\$ 130,000.00
2	Implement Utility Locating and Traffic Control Plan	1	LS	\$ 50,000.00	\$ 50,000.00
3	Furnish & Install 10" C900 DR18 PVC Pipe from Well #11	3,100	LF	\$ 50.00	\$ 155,000.00
4	Sawcut and Remove Existing AC Pavement	6,200	LF	\$ 3.50	\$ 21,700.00
5	Class II Aggregate Base Restoration	540	CY	\$ 130.00	\$ 70,200.00
6	Asphalt Pavement Restoration	525	TONS	\$ 75.00	\$ 39,375.00
7	Paint Striping Replacement	1	LS	\$ 10,000.00	\$ 10,000.00
8	Crossings	3	EA	\$ 10,000.00	\$ 30,000.00
9	Air Release Valves	6	EA	\$ 7,500.00	\$ 45,000.00
10	Modify Existing Well #13 Discharge Piping	1	LS	\$ 15,000.00	\$ 15,000.00
11	Furnish & Install 10" C900 DR18 PVC Pipe from Well #13	200	LF	\$ 50.00	\$ 10,000.00
12	Furnish & Install Bore & Jack Cased Crossing at Hall Rd	60	LF	\$ 650.00	\$ 39,000.00
13	TCP Site Earthwork and Subgrade Preparation	1	LS	\$ 30,000.00	\$ 30,000.00
14	GAC Concrete Foundation and Anchor Bolts	1	LS	\$ 125,000.00	\$ 125,000.00
15	GAC Vessel Purchase & Installation	6	EA	\$ 190,000.00	\$ 1,140,000.00
16	GAC Vessel Influent Piping and Appurtenances	1	LS	\$ 180,000.00	\$ 180,000.00
17	GAC Vessel Effluent Piping and Appurtenances	1	LS	\$ 175,000.00	\$ 175,000.00
18	GAC Vessel Backwash Piping and Appurtenances	1	LS	\$ 110,000.00	\$ 110,000.00
19	Backwash Tank, Piping, and Appurtenances	1	LS	\$ 200,000.00	\$ 200,000.00
20	Backwash Drain Line to Sewer System	1	LS	\$ 100,000.00	\$ 100,000.00
21	Furnish & Install 12" C900 DR18 PVC Pipe from Treatment to Well #13	200	LF	\$ 65.00	\$ 13,000.00
22	Furnish & Install Bore & Jack Cased Crossing at Hall Rd	60	LF	\$ 850.00	\$ 51,000.00
23	Furnish & Install Backwash Connection to Distribution System	1	LS	\$ 15,000.00	\$ 15,000.00
24	Well Site Drain Piping and Appurtenances	1	LS	\$ 50,000.00	\$ 50,000.00
25	Site Painting	1	LS	\$ 10,000.00	\$ 10,000.00
26	Site Fencing and Drive Gates	1	LS	\$ 30,000.00	\$ 30,000.00
27	Site Ground Cover	1	LS	\$ 20,000.00	\$ 20,000.00
28	Add Booster Pump and Piping at Well #13	1	LS	\$ 150,000.00	\$ 150,000.00
29	Site Electrical and Controls	1	LS	\$ 300,000.00	\$ 300,000.00
30	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
				Centralized 1,2,3-TCP Treatment Subtotal Cost:	\$ 3,324,275.00
				Project Contingency:	\$ 332,427.50
				Land Acquisition:	\$ 150,000.00
				Labor Compliance:	\$ 25,000.00
				Permitting and Compliance:	\$ 5,000.00
				Construction Surveying & Staking:	\$ 15,000.00
				Bid Advertisement & Legal:	\$ 5,000.00
				Engineering Design:	\$ 105,000.00
				Construction Inspection & Administration:	\$ 142,500.00
				Total Project Estimate:	\$ 4,104,202.50

The estimated O&M cost for a series treatment system is estimated as \$105,150.00.

1,2,3-TCP Centralized Treatment System Project					
Item No.	Item Description	Quantity	Unit	Unit Cost	Annualized Cost
<i>Well No. 11 and 13</i>					
1	Media Replacement - 60,000 lbs	LS	1	\$72,000.00	\$ 72,000.00
2	District Costs for Media Replacement	LS	1	\$2,000.00	\$ 2,000.00
3	Energy Cost Increase	LS	1	\$17,500.00	\$ 17,500.00
4	Flow Meter Calibration every 3 years	EA	3	\$850.00	\$ 850.00
5	Pressure Gauge Replacement every 1 yr	EA	12	\$150.00	\$ 1,800.00
6	Valve Replacement every 10 years	EA	30	\$150.00	\$ 4,500.00
7	Receptor Changeout every 3rd Changeout	LS	6	\$500.00	\$ 3,000.00
8	Additional Water Quality Testing	LS	1	\$3,500.00	\$ 3,500.00
Subtotal:					\$ 105,150.00

Well No. 11 & 13	Series Treatment
Capital Cost	\$4,104,202.50
O&M Cost	\$105,150.00

4.6.2 WELL NO. 12 AND WELL NO. 19

The Well No. 19 Facility is located on the south side of Mountain View Road approximately 2,300-ft west of Highway 184. The existing well site is approximately 230-ft by 400-ft or approximately 2.0 acres.

The well is equipped with a vertical turbine pump and motor, 500,000 gallon welded steel storage tank, booster pumping station, hydropneumatic tank, site piping, electrical and control equipment and an emergency generator.

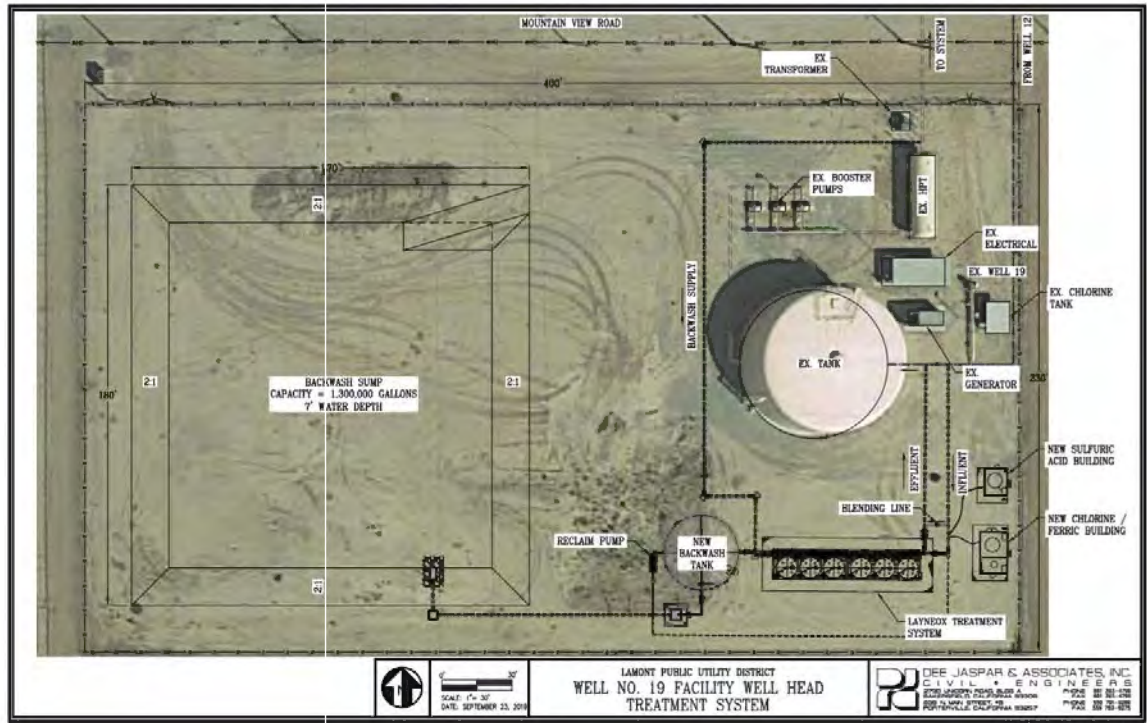


Figure 10: Well No. 19 Treatment Site Plan

It is proposed to construct an Arsenic treatment plant at the Well #19 site and utilize it to treat the raw water from Well #12 and Well #19 to remove Arsenic since they are already constructed to accomplish this.

A pilot study will need to be performed, prior to project design, to evaluate adsorption, ion exchange, and coagulation-filtration for the Arsenic removal at this location. However, for purposes of this evaluation, coagulation-filtration has been assumed for this facility. Coagulation-filtration is often times competitive with the other treatment technologies on a capital cost basis and substantially less cost on an annual basis for operations and maintenance.

Raw water will be conveyed from Well #12 and Well #19 and be combined in a pipeline to the Arsenic treatment plant. The raw water will be pretreated by chemical injection with sodium hypochlorite as a pre-oxidant, ferric chloride as a coagulant, and sulfuric acid to reduce the pH of the well water. The chemical storage tanks will each be equipped with ultrasonic level sensors to monitor chemical levels and send a low level signal to alarm the operator of low chemical levels. The raw water pH from Well #12 and #19 is approximately 8.0. To mitigate the lowering of the pH, a portion of the raw well water will bypass the treatment system and be blended with the treated effluent water to achieve a blended effluent pH above 7.5 into the distribution system.

The six vessel treatment system will operate continuously until the media is ready to backwash. During backwash, the booster station will pump treated effluent water

from the treated water storage tank to backwash the six filter vessels. While backwashing, the system will not produce treated water until the end of the backwash cycle. The backwash water will be sent to the backwash recovery storage tank. Once the level in the backwash recovery tank reaches a user adjustable setpoint, an automated drain valve will open to drain the tank to the sewer or to send the decant water back to the front of the treatment system (approximately 10% of the overall flow).

The treated effluent water will be stored in the existing 500,000-gallon storage tank and the existing booster pump station will operate to maintain pressure in the domestic distribution system.

The estimated capital cost for Arsenic treatment utilizing coagulation-filtration is \$4,583,000.00.

Well #12 & #19 Arsenic Treatment					
Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 200,000.00	\$ 200,000.00
2	Implement Utility Locating and Traffic Control Plan	1	LS	\$ 40,000.00	\$ 40,000.00
3	PVC Drain Line and Appurtenances, including connection to Existing Sewer Main	1	LS	\$ 105,000.00	\$ 105,000.00
4	Influent, Effluent, Backwash Waste & Backwash Supply Piping, Valves, Appurtenances, and Connections	1	LS	\$ 350,000.00	\$ 350,000.00
5	System Backwash Supply and Reclaim/Well Bypass Piping, Valves, Appurtenances, and Connections	1	LS	\$ 300,000.00	\$ 300,000.00
6	Reclaim Booster Pump Assembly, Concrete Foundations, Appurtenances, and Connections	1	LS	\$ 100,000.00	\$ 100,000.00
7	Blending Line and Appurtenances	1	LS	\$ 125,000.00	\$ 125,000.00
8	Treatment System Concrete Foundation and Anchor Bolts	1	LS	\$ 80,000.00	\$ 80,000.00
9	Skid Mounted LayneOx Water Treatment System including Piping, Valves, Appurtenances, and Connections	1	LS	\$ 1,500,000.00	\$ 1,500,000.00
10	Chlorine and Ferric Chloride FRP Storage Building including Epoxy Coated Foundation, Drain, A/C, Appurtenances, and Connections	1	LS	\$ 150,000.00	\$ 150,000.00
11	Sulfuric Acid FRP Storage Building including Epoxy Coated Foundation, A/C, Appurtenances, and Connections	1	LS	\$ 85,000.00	\$ 85,000.00
12	Double-walled 550 Gal. Sulfuric Acid Chemical Storage Tank including Duplex Chemical Feed Pumps, Containment, Appurtenances, & Connections	1	LS	\$ 30,000.00	\$ 30,000.00
13	Double-walled 550 Gal. Chlorine Storage Tank including Duplex Chemical Feed Pumps, Containment, Appurtenances, & Connections	1	LS	\$ 30,000.00	\$ 30,000.00
14	Double-walled 150 Gal. Ferric Chloride Storage Tank including Duplex Chemical Feed Pumps, Containment, Appurtenances, & Connections	1	LS	\$ 25,000.00	\$ 25,000.00
15	Concrete Ringwall Foundation, Aggregate Base, and Oiled Sand Cushion	1	LS	\$ 30,000.00	\$ 30,000.00
16	32' Diameter x 16' Tall AW/VA D103 Bolted Steel Storage Tank, Appurtenances, and Connections	1	LS	\$ 150,000.00	\$ 150,000.00
17	Well Site Drain Piping and Appurtenances	1	LS	\$ 50,000.00	\$ 50,000.00
18	Site Painting	1	LS	\$ 30,000.00	\$ 30,000.00
19	Site Ground Cover	1	LS	\$ 40,000.00	\$ 40,000.00
20	Site Electrical and Controls	1	LS	\$ 350,000.00	\$ 350,000.00
21	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
Centralized Arsenic Treatment Subtotal Cost:				\$	3,780,000.00
Project Contingency:				\$	378,000.00
Land Acquisition:				\$	-
Pilot Testing:				\$	100,000.00
Labor Compliance:				\$	30,000.00
Permitting and Compliance:				\$	5,000.00
Construction Surveying & Staking:				\$	15,000.00
Bid Advertisement & Legal:				\$	5,000.00
Engineering Design:				\$	105,000.00
Construction Inspection & Administration:				\$	165,000.00
Total Project Estimate:				\$	4,583,000.00

The annual operations and maintenance costs include media replacement, chemicals, waste disposal, equipment calibration and maintenance, water quality testing, and increased energy cost. The estimated annual cost is \$135,110.00.

Arsenic Treatment System Project					
Item No.	Item Description	Quantity	Unit	Unit Cost	Annualized Cost
<i>Well No. 12 and 19</i>					
1	Media Replacement every 10 years	LS	1	\$10,000.00	\$ 10,000.00
2	District Costs for Media Replacement	LS	1	\$2,000.00	\$ 2,000.00
3	Energy Cost Increase due to Filters	LS	1	\$10,360.00	\$ 10,360.00
4	Energy Cost for Backwashing	LS	1	\$8,000.00	\$ 8,000.00
5	pH Adjustment	LS	1	\$30,000.00	\$ 30,000.00
6	Ferric Chloride Dosing	LS	1	\$5,000.00	\$ 5,000.00
7	Chlorine Dosing	LS	1	\$30,000.00	\$ 30,000.00
8	Backwash Waste Sludge Disposal	LS	1	\$25,000.00	\$ 25,000.00
9	Flow Meter Calibration every 3 years	EA	6	\$850.00	\$ 850.00
10	Pressure Gauge Replacement every 1 yr	EA	12	\$150.00	\$ 1,800.00
11	Valve Replacement every 10 years	EA	24	\$150.00	\$ 3,600.00
12	Analyzer Maintenance	LS	1	\$3,500.00	\$ 3,500.00
13	Additional Water Quality Testing	LS	1	\$5,000.00	\$ 5,000.00
Subtotal:					\$ 135,110.00

Well No. 12 & 19	Series Treatment
Capital Cost	\$4,583,000.00
O&M Cost	\$135,110.00

The centralized treatment alternative costs are summarized below:

Centralized Treatment Alternative		
Well Facility	Capital Cost	O&M Cost
Well #5 TCP Treatment	\$2,473,850.00	\$79,800.00
Well #11 & #13 Treatment	\$4,104,202.50	\$105,150.00
Well #12 & #19 As Treatment	\$4,583,000.00	\$135,110.00
Total:	\$11,161,052.50	\$320,060.00

4.7 WELL REPLACEMENT

Four of the eight wells are nearing the end of the wells useful life. The useful life of a water supply well is typically 50 to 70 years. The well ages are:

- Well #5 52 years old
- Well #11 52 years old
- Well #12 45 years old
- Well #13 47 years old

This raises the question of how wise it is to invest the money to install treatment versus drilling a new well and attempting to avoid treatment altogether. However there are no guarantees and it could be that a new well is drilled and constructed and treatment is still necessary.

Three of the four subject well sites, Wells #5, #11, & #13, are all so small that drilling a replacement well at the existing site is not feasible. Therefore new well sites would need to be procured. It would be recommended that a hydrogeological study be performed to evaluate the Lamont area and select well sites that give the District the best chance at completing a well not requiring treatment. The capital cost for drilling, developing, and constructing a new water well is estimated at \$771,320.00 for a 900-ft deep well. The capital cost to develop the well site and equip the well with pump, motor, discharge piping, and electrical is estimated at \$1,527,890.00. It may be possible to salvage some of the equipment from the existing well sites, however that has not been factored in at this time. When including costs for land acquisition, a casing hammer test well, permitting, design, and construction administration, the total estimated cost for a replacement well is \$3,064,131.00.

All four of these aging wells have exceedances of the MCL. Three of them exceed the MCL for 1,2,3-TCP: Well No. 5, Well No. 11, & Well No. 13. Well No. 12 exceeds the MCL for Arsenic. If a replacement well for Well No. 12 could be drilled with low Arsenic then it could possibly still be blended with Well No. 19 and avoid Arsenic treatment altogether. It is recommended that a casing hammer test well be drilled for each of the proposed four new wells in an effort to obtain detailed and frequent water quality data for each water bearing formation. This will provide the best chance for a well to be completed that does not require treatment.

A detailed cost breakdown is shown below for the construction of a replacement water well. These costs include a casing hammer test well, land acquisition, permitting, design, bidding, and construction management.

Well Replacement Well					
Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 130,000.00	\$ 130,000.00
2	36" Conductor Casing	50	LF	\$ 950.00	\$ 47,500.00
3	18" dia. Pilot Hole Construction	900	LF	\$ 90.00	\$ 81,000.00
4	Formation Sampling	6	EA	\$ 17,500.00	\$ 105,000.00
5	Ream Pilot 34" & 28" Hole	900	LF	\$ 90.00	\$ 81,000.00
6	16" I.D. x 5/16" HSLA Blank Casing	420	LF	\$ 205.00	\$ 86,100.00
7	16" I.D. x 5/16" HSLA Perforated Casing	460	LF	\$ 295.00	\$ 135,700.00
8	20" Compression Section	1	LS	\$ 10,400.00	\$ 10,400.00
9	4" Gravel Feed Tube	450	LF	\$ 15.00	\$ 6,750.00
10	3" Sounding Tube	465	LF	\$ 14.00	\$ 6,510.00
11	Gravel Envelope (8x16 Colorado Silica Sand)	440	LF	\$ 80.00	\$ 35,200.00
12	Cement Seal	440	LF	\$ 102.00	\$ 44,880.00
13	Swabbing & Air Lifting	80	HRS	\$ 375.00	\$ 30,000.00
14	Pumping & Surging	72	HRS	\$ 350.00	\$ 25,200.00
15	Production Testing	24	HRS	\$ 350.00	\$ 8,400.00
16	Well Video	1	LS	\$ 2,680.00	\$ 2,680.00
17	Well Site Earthwork and Paved Drive Approach	1	LS	\$ 171,330.00	\$ 171,330.00
18	Well Site Drain Piping and Appurtenances	1	LS	\$ 70,960.00	\$ 70,960.00
19	Concrete Pump Foundation for Deep Well	1	EA	\$ 12,100.00	\$ 12,100.00
20	Vertical Hollow Shaft Electric Motor	1	EA	\$ 50,000.00	\$ 50,000.00
21	Deep Well Vertical Turbine Pump Assembly	1	EA	\$ 120,000.00	\$ 120,000.00
22	Pump Discharge Piping and Appurtenances	1	LS	\$ 180,000.00	\$ 180,000.00
23	Hydropneumatic Tank and Concrete Footings	1	LS	\$ 90,000.00	\$ 90,000.00
24	PVC Conveyance Piping and Appurtenances from Well Site to LPUID Distribution System	1,300	LF	\$ 150.00	\$ 195,000.00
25	Liquid Chlorine Injection System including Building and	1	LS	\$ 89,550.00	\$ 89,550.00
26	Electrical Shade Structure and Concrete Foundation	1	LS	\$ 35,000.00	\$ 35,000.00
27	Well Site Ground Cover	1	LS	\$ 38,950.00	\$ 38,950.00
28	Painting System	1	LS	\$ 10,000.00	\$ 10,000.00
29	Chain Link Fencing with Drive and Personnel Gates	800	LF	\$ 50.00	\$ 40,000.00
30	Well Site Electrical and Controls	1	LS	\$ 350,000.00	\$ 350,000.00
31	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
Well Replacement Subtotal Cost:					\$ 2,299,210.00
Project Contingency:					\$ 229,921.00
Casing Hammer Test Well:					\$ 205,000.00
Land Acquisition:					\$ 100,000.00
Labor Compliance:					\$ 15,000.00
Permitting and Compliance:					\$ 5,000.00
Construction Surveying & Staking:					\$ 15,000.00
Bid Advertisement & Legal:					\$ 10,000.00
Engineering Design:					\$ 60,000.00
Construction Inspection & Administration:					\$ 125,000.00
Total Project Estimate:					\$ 3,064,131.00

While there are O&M expenses associated with a replacement well, these costs have not been considered herein because they should be similar in nature to the current O&M costs of the existing Well 5, 11, 12, and 13. This engineering evaluation is striving to consider the increase in O&M costs above the current costs.

<u>Well No.</u>	<u>Capacity</u>	<u>Cost Estimate w/o Treatment</u>
Well 5	1,100 gpm	\$0.00
Well 11	1,100 gpm	\$0.00
Well 12	1,200 gpm	\$0.00
Well 13	1,000 gpm	\$0.00
Total O&M Estimate:		\$0.00

The cost of a replacement well is not much greater than installing treatment and the savings in O&M pays for the difference in cost in just a few years. However there is no guarantee that a well can be completed that does not require treatment. This will need to be factored into the decision.

The total cost for the Well Replacement Alternative is summarized below:

Well Replacement Alternative		
Well Facility	Capital Cost	O&M Cost
Well #5 Replacement Well	\$3,064,131.00	\$0.00
Well #11 Replacement Well	\$3,064,131.00	\$0.00
Well #12 Replacement Well	\$3,064,131.00	\$0.00
Well #13 Replacement Well	\$3,064,131.00	\$0.00
Total:	\$12,256,524.00	\$0.00

However these numbers increase if replacement wells are unable to avoid treatment. The capital cost and O&M cost increases would be comparable to the amounts listed in Section 4.5 herein. The capital cost could increase by approximately \$2,473,850.00 to \$4,583,000.00 per well that requires treatment and the O&M costs could increase by approximately \$79,800.00 to \$135,110.00 per well.

In addition new SGMA (Sustainable Groundwater Management Act) regulations could change groundwater well policies. These changes are still an unknown, however these changes are not anticipated to have significant impacts on the District as public health and safety take precedence and mean that the District must have water wells to provide water to the community. Furthermore, these four wells would be replacement wells and not necessarily new capacity.

4.8 ALTERNATIVE SUMMARY

The capital and operations and maintenance costs are summarized below for each alternative discussed herein.

Alternative Summary		
Alternative	Capital Cost	O&M Cost
No Project	Not Feasible	
Consolidation	Not Feasible	
Alternate Water Supply	Not Feasible	
Blending	Not Feasible	
Well Head Treatment	\$12,099,150.00	\$374,510.00
Centralized Treatment	\$11,161,052.50	\$320,060.00
Well Replacement w/o Treatment	\$12,256,524.00	\$0.00
Well Replacement w/Treatment	\$24,355,674.00	\$374,510.00

With the exception of the alternate that drills four replacement wells and still has to install treatment on all four of them, the alternatives are relatively similar in capital cost. However if replacement wells can be drilled that avoid treatment altogether, then that

alternative quickly becomes the most economical based upon the present worth values below.

Present Worth Summary		
Alternative	Present Worth	Ranking
Well Replacement w/o Treatment	\$12,256,524.00	1
Centralized Treatment	\$15,679,446.00	2
Well Replacement w/TCP Treatment at One Well	\$15,846,415.00	3
Well Head Treatment	\$17,411,680.00	4
Well Replacement w/TCP Treatment at Two Wells	\$19,436,305.00	5
Well Replacement w/TCP Treatment at Three Wells	\$23,120,796.00	6
Well Replacement with Treatment at Four Wells	\$29,668,204.00	7

Four of the District wells require treatment, however these wells are of an age that they will require replacement in the near future. Therefore, it is recommended that these wells be replaced at this time and that every effort be made to complete the wells such that they meet all Title 22 Drinking Water Standards. If this is accomplished then this alternative is the most economical as it has little increase in annual O&M expenses for the District. If one of the four wells requires well head treatment, this alternative is still nearly as economical as the next most economical alternative which is centralized treatment and it replaces aging infrastructure whereby the District has new wells that will supply water for another approximately 50 years of useful life.

4.9 El Adobe Property Owner's Association Consolidation

El Adobe is a community with a population of 250, located approximately two miles west of the community of Lamont in the west half of Section 10, T31S, R28E, in the unincorporated area of Kern County, California. There are 81 single family residences within the service area on 80 parcels. There are two vacant parcels of undeveloped land within the service area where a residence could be constructed in the future. The estimated peak hour demand for this community is 205 gpm to 330 gpm.

The consolidation will involve constructing a 10-inch diameter transmission main along DiGorgio Road west to EAPOA. A new, looped distribution system with 8-inch diameter pipes will be constructed throughout the development in accordance with District standards. All connections will include water meters.

In addition, the consolidation will involve the abandonment of the existing EAPOA Well No. 1 and Well No. 2, demolish the existing EAPOA 25,000 gallon and 44,000 gallon storage tanks, and demolish and remove the existing booster pump stations at Well No. 1 and Well No. 2.

EI Adobe Property Owner's Association (EAPOA) Consolidation					
Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 150,000.00	\$ 150,000.00
2	Implement Utility Locating and Traffic Control Plan	1	LS	\$ 50,000.00	\$ 50,000.00
3	Furnish & Install 10" C900 DR18 PVC Pipe Transmission Main	10,300	LF	\$ 65.00	\$ 669,500.00
4	Sawcut and Remove Existing AC Pavement	6,200	LF	\$ 3.50	\$ 21,700.00
5	Class II Aggregate Base Restoration	540	CY	\$ 130.00	\$ 70,200.00
6	Asphalt Pavement Restoration	525	TONS	\$ 75.00	\$ 39,375.00
7	Paint Striping Replacement	1	LS	\$ 10,000.00	\$ 10,000.00
8	Road Crossings	3	EA	\$ 50,000.00	\$ 150,000.00
9	Air Release Valves	6	EA	\$ 7,500.00	\$ 45,000.00
10	Furnish & Install 10" Gate Valves	8	EA	\$ 2,500.00	\$ 20,000.00
11	Furnish & Install 4" C900 DR18 PVC Pipe	500	LF	\$ 50.00	\$ 25,000.00
12	Furnish & Install 6" C900 DR18 PVC Pipe	1,000	LF	\$ 60.00	\$ 60,000.00
13	Furnish & Install 8" C900 DR18 PVC Pipe	13,200	LF	\$ 70.00	\$ 924,000.00
14	Furnish & Install 10" C900 DR18 PVC Pipe	1,000	LF	\$ 80.00	\$ 80,000.00
15	Furnish & Install 4" Gate Valves	2	EA	\$ 400.00	\$ 800.00
16	Furnish & Install 6" Gate Valves	1	EA	\$ 800.00	\$ 800.00
17	Furnish & Install 8" Gate Valves	25	EA	\$ 1,500.00	\$ 37,500.00
18	Furnish & Install 10" Gate Valves	3	EA	\$ 2,500.00	\$ 7,500.00
19	Furnish & Install Fire Hydrant Assemblies	24	EA	\$ 6,000.00	\$ 144,000.00
20	Furnish & Install 1" Service Connection	81	EA	\$ 950.00	\$ 76,950.00
21	Demolish Existing 25,000 and 44,000 Gallon Tanks	1	LS	\$ 25,000.00	\$ 25,000.00
22	Abandon Existing Water Distribution System Piping	1	LS	\$ 25,000.00	\$ 25,000.00
23	Abandon Existing Well Site #1 and #2	1	LS	\$ 55,000.00	\$ 55,000.00
24	Acceptance and Testing	1	LS	\$ 10,000.00	\$ 10,000.00
				EAPOA Consolidation Subtotal Cost:	\$ 2,697,325.00
				Project Contingency:	\$ 269,732.50
				Water Capacity Charge:	\$ 413,100.00
				Water Connection Fees:	\$ 16,200.00
				Labor Compliance:	\$ 25,000.00
				Permitting and Compliance:	\$ 10,000.00
				Construction Surveying & Staking:	\$ 20,000.00
				Bid Advertisement & Legal:	\$ 5,000.00
				Engineering Design:	\$ 105,000.00
				Construction Inspection & Administration:	\$ 142,500.00
				Total Project Estimate:	\$ 3,703,857.50

The estimated capital cost for the consolidation of the EAPOA with the District is \$3,703,857.50.

V. **SECTION 5 – SELECTED CONSTRUCTION PROJECT**

A. *Project Description*

The proposed project is to replace four aging wells, Well No. 5, 11, 12, & 13, that all have exceedances of the MCL for water quality. The goal will be to construct these new wells without having to add any water quality treatment. In order to achieve this the following steps are recommended:

- Perform a hydrogeologic study to identify areas for drilling replacement wells that have the best chance of avoiding contaminants.
- Drill a casing hammer test well at each well location to identify the water quality systematically with depth down to approximately 900-ft.
- Construct a production well with stringent oversight and water quality testing for confirmation.

The project will then equip each of the wells with vertical turbine pumps, motors, discharge piping, electrical and controls, and connections to the existing distribution system. In the event the wells still require treatment, then well head treatment will also be installed at the well site.

In addition, the project includes the consolidation of El Adobe Property Owner's Association with the Lamont Public Utility District. This will require a 10-inch transmission main to be installed along DiGiorgio Road from the District to the EAPOA, replacement of water mains throughout the EAPOA to provide a looped water system, installation of meters, and the abandonment of the existing EAPOA water supply facilities.

The District also needs to construct a supervisory control and data acquisition (SCADA) system for remote monitoring and control of the District facilities and update District maps and upgrade to a District GIS system.

B. *Problem Solution*

The District problems are two fold – 1) four wells have water quality violations for exceeding the State MCL and 2) those same four wells have reached their useful life and need to be replaced before complete failure.

Due to the age of the four wells, it is not recommended to construct well head treatment. Well head treatment is expensive and increases the long term District operations and maintenance costs.

The four new replacement wells would be constructed with every effort to avoid treatment. If this can be accomplished then it will provide the District with water supply infrastructure that has a long useful life remaining and does not significantly increase the annual operations and maintenance expenses. It will also mean that the District is in compliance with the State Water Board for its water quality. The operational challenges will be similar to the operation of the existing District wells and will not add anything new to their maintenance and operations.

If treatment cannot be avoided, then treatment will be added so that the District is in compliance for its water quality. This alternative is still the most desirable because it will provide the District water supply infrastructure that has a long useful life remaining and is worth the investment. The operational challenges will be dependent on the type of treatment that must be installed. The District is already familiar with GAC treatment for 1,2,3-TCP as they have it installed and operational at Well No. 17 & 18. However, if Arsenic treatment is required it will require training for the District staff.

C. Local Planning

The project is consistent with local planning. The project will not increase the water demand or increase local services and demands as it is primarily to replace aging infrastructure and at the same time address water quality concerns.

D. Green Components

The project does not include any green components.

E. Consolidation Project

The project does include the consolidation of the El Adobe Property Owner's Association (EAPOA) with the Lamont Public Utility District. The existing EAPOA has water quality violations and it is proposed to consolidate them with the District. The EAPOA would be served by a new 10-inch main installed west along DiGiorgio Road from the existing District water system. The project would include replacement of the EAPOA water mains, installation of new metered

services, and abandonment of the existing EAPOA water supply facilities.

F. Land Purchase

Land purchase will be required for four well site locations. The well site locations will be selected based upon land availability and the results of the hydrogeological study. It is estimated that ½-acre to 1-acre will be necessary for each well site. An estimate of the cost of the land acquisition has been included in the cost breakdown and is based upon recent experience with well site purchases.

The size of the site is necessary to provide a minimum 50-ft buffer around the well while maintaining space for servicing the well equipment and for future treatment, if necessary.

G. Redundancy

The four proposed wells are for purposes of replacing four existing water wells that are aging and have water quality violations. The average capacity of the four existing wells is 1,100 gpm. The replacement of these wells will provide the District a more reliable water supply since these four wells are currently near the end of their useful life.

H. Conceptual Layout

A typical well site will be approximately 0.5 acre to 1.0 acres. The well site will include a well, well concrete foundation, deep well pump and motor, well discharge piping, and a hydropneumatic tank. Electrical and controls will be provided for the well facility and be placed on a concrete foundation with a galvanized steel shade structure. The well will be operated using a variable speed drive that operates based on pressure. A PLC will be utilized to control the operation of the well facility such that it starts on low pressure and stops on high pressure. In addition, the site will be fenced for security purposes, will be covered with site ground cover for accessibility, and be landscaped for aesthetics with the surrounding neighborhood.

A conceptual layout is shown below for a typical replacement well site.

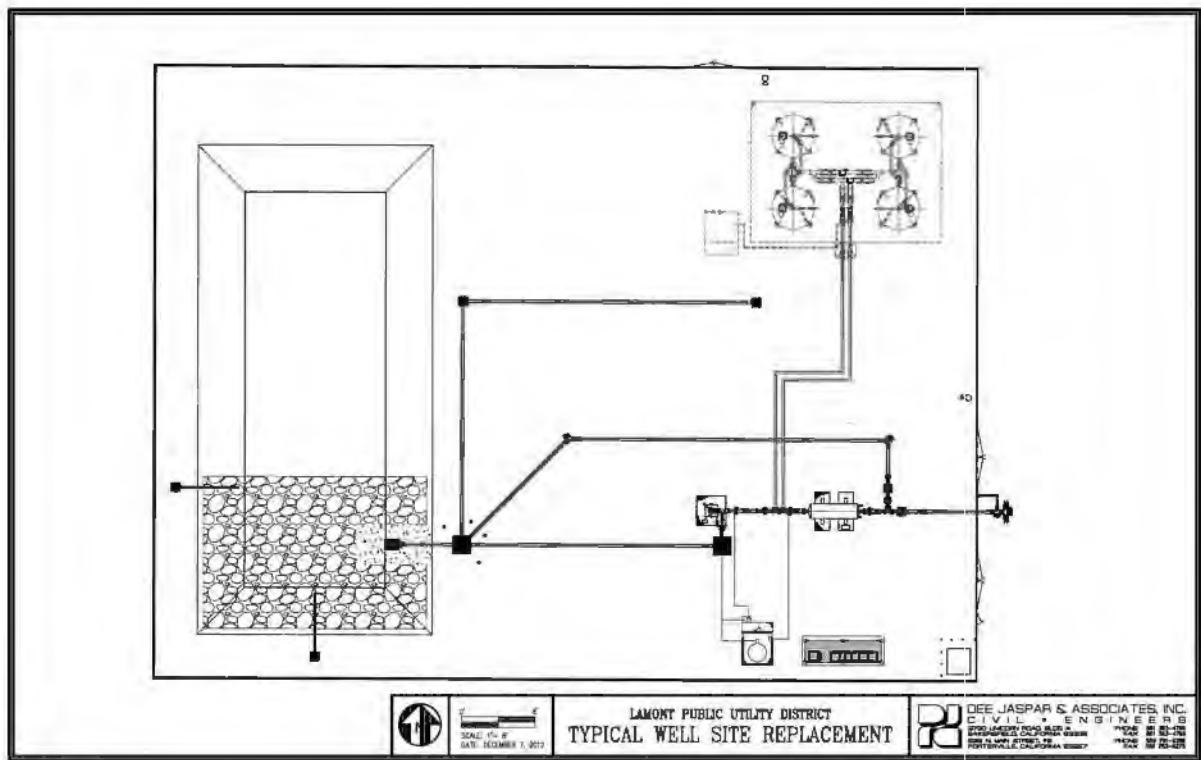


Figure 11: Conceptual Well Site Replacement Layout

In addition, a conceptual site plan is illustrated for the consolidation with the EAPOA.

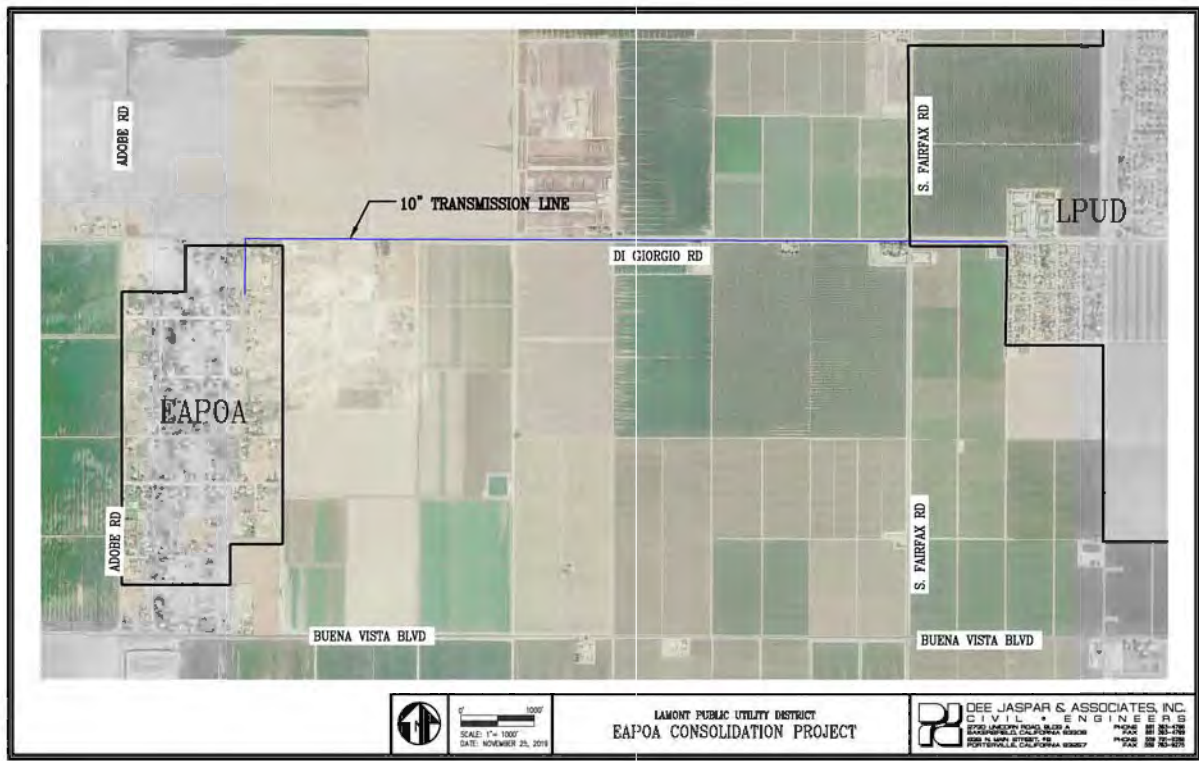


Figure 12A: EAPOA Consolidation Transmission Main

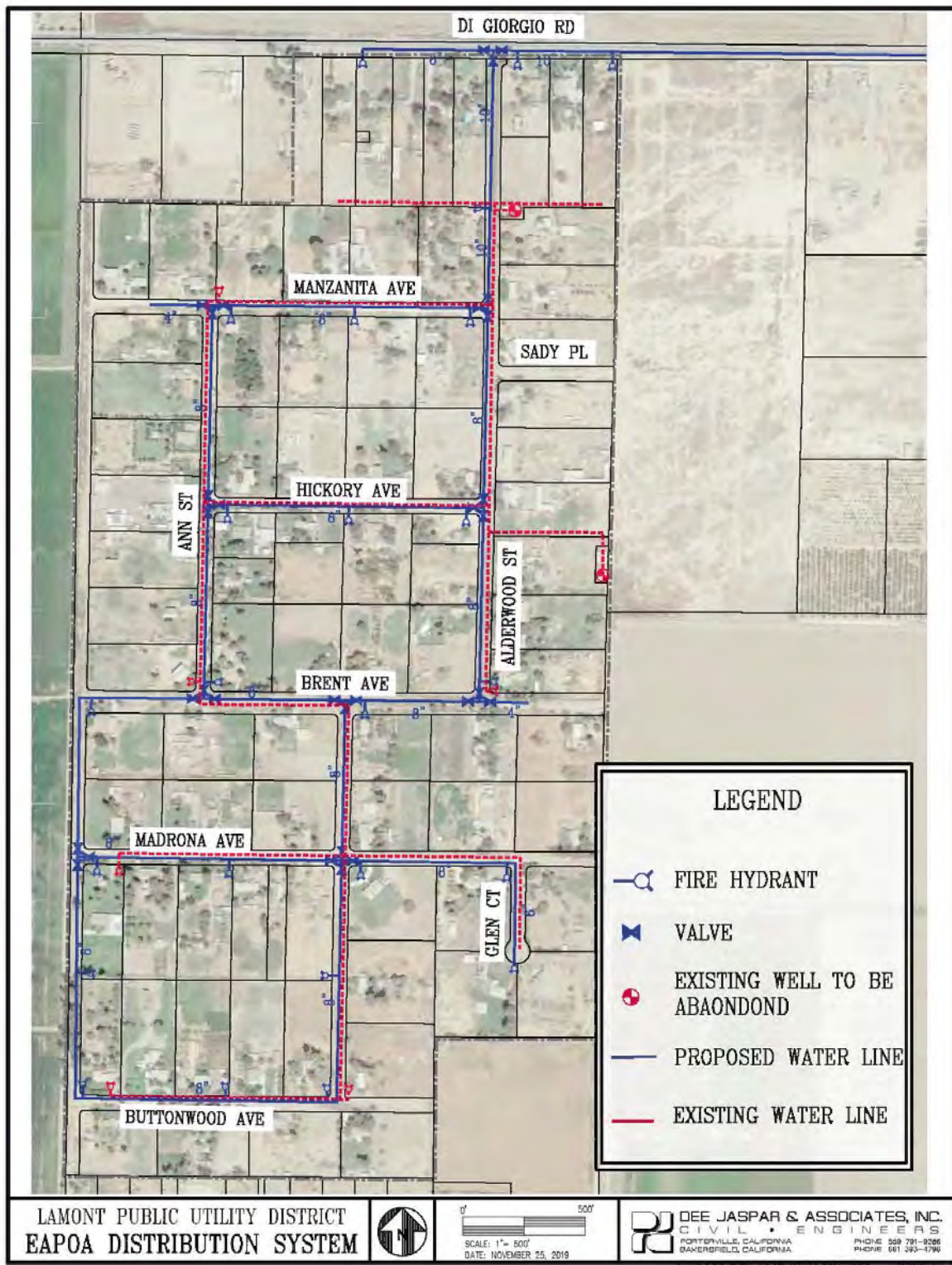


Figure 12B: EAPOA Consolidation Project

I. Water Demands

The system water demands will increase slightly as a result of the consolidation with the EAPOA. It is estimated that the EAPOA will increase the peak hour municipal demand by approximately 205 gpm.

The remainder of the project should not effect the system water demands since it primarily involves the drilling of new wells to replace the existing four water supply wells. However it will be important to complete wells that have a minimum combined capacity of 4,400 gpm or 1,100 gpm per well so that the current supply capacity is not reduced.

J. Major Components & Useful Life

The major project components and their associated useful life are outlined below:

Item	Component Description	Useful Life (years)
1	Well Casing	50 years
2	Vertical Turbine Pump	10 years
3	Vertical Hollowshaft Motor	10 years
4	Steel Piping	50 years
5	Valves	15 years
6	Flow Meters	10 years
7	Pressure Tank	50 years
8	Electrical Gear	25 years
9	Variable Speed Drive	15 years
10	PLC	10 years

K. Detailed Cost Breakdown

Below is a detailed cost breakdown of the selected project:

Selected Project Cost Estimate					
Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 130,000.00	\$ 130,000.00
2	36" Conductor Casing	50	LF	\$ 950.00	\$ 47,500.00
3	18" dia. Pilot Hole Construction	900	LF	\$ 90.00	\$ 81,000.00
4	Formation Sampling	6	EA	\$ 17,500.00	\$ 105,000.00
5	Ream Pilot 34" x 28" Hole	900	LF	\$ 90.00	\$ 81,000.00
6	16" I.D. x 5/16" HSLA Blank Casing	420	LF	\$ 205.00	\$ 86,100.00
7	16" I.D. x 5/16" HSLA Perforated Casing	460	LF	\$ 295.00	\$ 135,700.00
8	20' Compression Section	1	LS	\$ 10,400.00	\$ 10,400.00
9	4" Gravel Feed Tube	450	LF	\$ 15.00	\$ 6,750.00
10	3" Sounding Tube	465	LF	\$ 14.00	\$ 6,510.00
11	Gravel Envelope (8x18 Colorado Silica Sand)	440	LF	\$ 80.00	\$ 35,200.00
12	Cement Seal	440	LF	\$ 102.00	\$ 44,880.00
13	Swabbing & Air Lifting	80	HRS	\$ 375.00	\$ 30,000.00
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15	Production Testing	24	HRS	\$ 350.00	\$ 8,400.00
16	Well Video	1	LS	\$ 2,680.00	\$ 2,680.00
17	Well Site Earthwork and Paved Drive Approach	1	LS	\$ 171,330.00	\$ 171,330.00
18	Well Site Drain Piping and Appurtenances	1	LS	\$ 70,960.00	\$ 70,960.00
19	Concrete Pump Foundation for Deep Well	1	EA	\$ 12,100.00	\$ 12,100.00
20	Vertical Hollow Shaft Electric Motor	1	EA	\$ 50,000.00	\$ 50,000.00
21	Deep Well Vertical Turbine Pump Assembly	1	EA	\$ 120,000.00	\$ 120,000.00
22	Pump Discharge Piping and Appurtenances	1	LS	\$ 180,000.00	\$ 180,000.00
23	Hydropneumatic Tank and Concrete Footings	1	LS	\$ 90,000.00	\$ 90,000.00
24	PVC Conveyance Piping and Appurtenances from Well Site to LPUD Distribution System	1,300	LF	\$ 150.00	\$ 195,000.00
25	Liquid Chlorine Injection System including Building and	1	LS	\$ 89,550.00	\$ 89,550.00
26	Electrical Shade Structure and Concrete Foundation	1	LS	\$ 35,000.00	\$ 35,000.00
27	Well Site Ground Cover	1	LS	\$ 38,950.00	\$ 38,950.00
28	Painting System	1	LS	\$ 10,000.00	\$ 10,000.00
29	Chain Link Fencing with Drive and Personnel Gates	800	LF	\$ 50.00	\$ 40,000.00
30	Well Site Electrical and Controls	1	LS	\$ 350,000.00	\$ 350,000.00
31	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
Well Replacement Subtotal Cost:					\$ 2,299,210.00
Project Contingency:					\$ 229,921.00
Casing Hammer Test Well:					\$ 205,000.00
Land Acquisition:					\$ 100,000.00
Labor Compliance:					\$ 15,000.00
Permitting and Compliance:					\$ 5,000.00
Construction Surveying & Staking:					\$ 15,000.00
Bid Advertisement & Legal:					\$ 10,000.00
Engineering Design:					\$ 60,000.00
Construction Inspection & Administration:					\$ 125,000.00
Total Estimate Per Well:					\$ 3,064,131.00
Total Estimate for Four Wells:					\$ 12,256,524.00
El Adobe Consolidation Project:					\$ 3,703,857.50
District Improvements:					\$ 550,000.00
Total Project Estimate w/o Treatment:					\$ 16,510,381.50
Total Project Estimate w/ Treatment:					\$ 24,355,674.00

The total project cost without treatment is \$16,510,381.50. If treatment becomes necessary as a result of not being able to complete a well that avoids contaminants then the cost would increase between \$2,473,850.00 to \$12,099,150.00.

All costs are estimated to be eligible costs.

The annual increase in operations and maintenance costs is \$0.00 if wells can be completed that do not require treatment. However, if treatment cannot be avoided, then the O&M cost increase could be in the range of \$79,800.00 to \$374,510.00.

VI. SECTION 6 – PROPOSED SCHEDULE

The project schedule includes the planning and engineering design phase, the execution of the funding agreement, the bid process, the execution of contract agreements, and construction.

The planning and engineering design phase has been estimated to involve approximately twenty-four (24) months and includes time for a hydrogeologic study, land acquisition for well sites, construction of four casing hammer test wells, geotechnical work, preparation of plans, specifications, and estimates, and the preparation of environmental documents.

Upon execution of the project funding agreement, the District would administer the bidding process which would take approximately two (2) months and then award and execute contracts which would involve approximately two (2) more months.

The construction phase is estimated to involve approximately eighteen (18) months to drill and equip four municipal water wells, install connections to the existing distribution system, install a District SCADA system, and map the District system.

The overall project is estimated to involve approximately four years. See the attached project schedule under Appendix E for the selected project.

APPENDIX A
Schematic Map of System's Existing Facilities

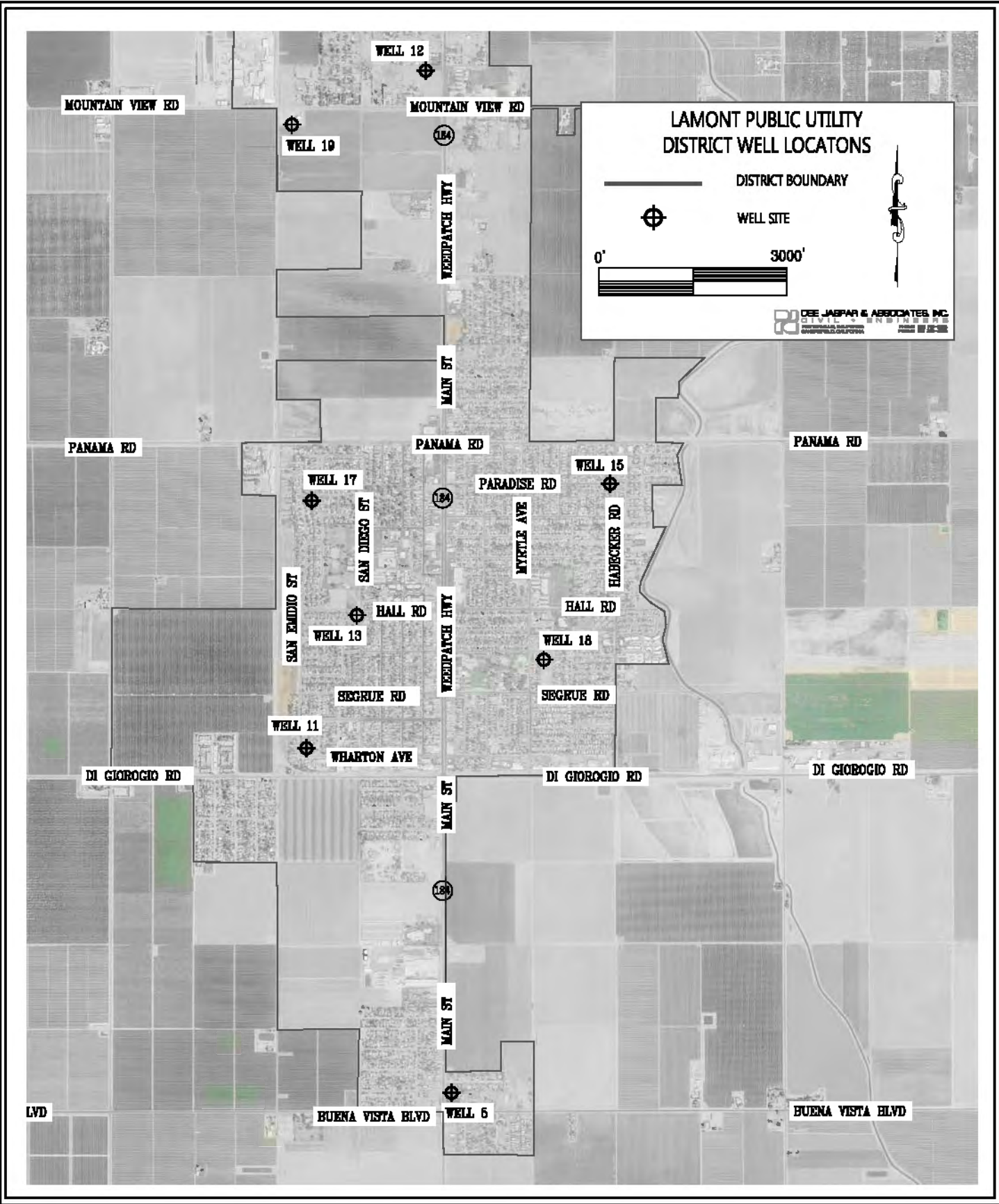
LAMONT PUBLIC UTILITY DISTRICT WELL LOCATIONS

DISTRICT BOUNDARY
⊕ WELL SITE

0'

3000'

CEE JARFAR & ASSOCIATES, INC.
 CIVIL ENGINEERS
10000 W. 10TH AVENUE, SUITE 100, DENVER, CO 80202
PHONE: 303-733-3333



APPENDIX B
Notices of Violation



Edmund G. Brown, Jr.
GOVERNOR

MATTHEW ROSENBLUTH
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board
Division of Drinking Water

May 15, 2017
System No. 1510012

Mr. Rolando Marquez, Chief Operator
Lamont Public Utility District
8624 Segrue Road
Lamont, CA 93241

RE: Compliance Order No. 03_12_17R_001
Arsenic Maximum Contaminant Level Violation

Dear Mr. Marquez:

Enclosed is a Compliance Order issued to the Lamont Public Utility District (hereinafter "Water System") public water system.

The Water System will be billed at the State Water Resources Control Board's (hereinafter "State Board") hourly rate for the time spent on issuing this compliance order. California Health and Safety Code, Section 116577, provides that a public water system must reimburse the State Board for actual costs incurred by the State Board for specified enforcement actions, including but not limited to, preparing, issuing and monitoring compliance with a compliance order. The Water System will receive a bill sent from the State Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on the Water System for the current fiscal year.

Any person who is aggrieved by a citation, order or decision issued by the Deputy Director of the Division of Drinking Water under Article 8 (commencing with Health and Safety Code, Section 116625) or Article 9 (commencing with Health and Safety Code, Section 116650), of the Safe Drinking Water Act (Chapter 4, Part 12, Division 104, of the Health and Safety Code) may file a petition with the State Water Board for reconsideration of the citation, order or decision. Appendix 1 to the enclosed citation contains the relevant statutory provisions for filing a petition for reconsideration. (Health and Safety Code, Section 116701).

Petitions must be received by the State Board within 30 days of the issuance of the citation, order or decision by the Deputy Director. The date of issuance is the date when the Division of Drinking Water mails a copy of the citation, order or decision. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day. Petitions must be received by 5:00 p.m.

Information regarding filing petitions may be found at:

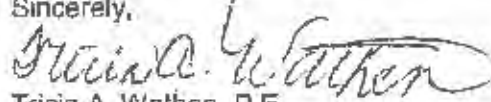
http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml

Mr. Marquez / Lamont PUD

May 15, 2017

If you have any questions regarding this matter, please contact Jason Cunningham of my staff at (559) 447-3484 or me at (559) 447-3300.

Sincerely,



Tricia A. Wathen, P.E.

Senior Sanitary Engineer, Visalia District
SOUTHERN CALIFORNIA BRANCH
DRINKING WATER FIELD OPERATIONS

TAW/LR

Enclosures

Certified Mail No. 7011 2070 0000 4896 3582

cc: Kern County Environmental Health Department

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER

Name of Public Water System: Lamont Public Utility District

Water System No: 1510012

Attention: Mr. Rolando Marquez, Chief Operator

8624 Segrue Road

Lamont, CA 93241

Issued: May 15, 2017

COMPLIANCE ORDER FOR NONCOMPLIANCE
ARSENIC MAXIMUM CONTAMINANT LEVEL
CALIFORNIA CODE OF REGULATIONS, TITLE 22, SECTION 64431

The California Health and Safety Code (hereinafter "CHSC"), Section 116655 authorizes the State Water Resources Control Board (hereinafter "State Board") to issue a compliance order to a public water system when the State Board determines that the public water system has violated or is violating the California Safe Drinking Water Act (hereinafter "California SDWA"), (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any regulation, standard, permit, or order issued or adopted thereunder.

1 The State Board, acting by and through its Division of Drinking Water (hereinafter "Division")
2 and the Deputy Director for the Division, hereby issues this compliance order pursuant to
3 Section 116655 of the CHSC to the Lamont Public Utility District (hereinafter "Water System")
4 for violation of CHSC, Section 116555(a)(1) and California Code of Regulations (hereinafter
5 "CCR"), Title 22, Section 64431 Maximum Contaminant Levels – Inorganic Chemicals (Arsenic).

6
7 A copy of the applicable statutes and regulations are included in Appendix 1, which is attached
8 hereto and incorporated by reference.

9
10 **STATEMENT OF FACTS**

11 The Water System is classified as a community water system with a population of approximately
12 19,057 persons, served through 3,151 service connections. The Water System operates under
13 Domestic Water Supply Permit No. 03-91-007 issued by the Division on January 31, 1991.

14
15 The Water System utilizes eight groundwater wells as its source of domestic water. Title 22,
16 CCR, Division 4, Chapter 15, Article 4, establishes primary drinking water standards and
17 monitoring and reporting requirements for inorganic constituents. Community and non transient
18 non community water systems must comply with the maximum contaminant level for arsenic of
19 0.010 mg/L, as established in Title 22 CCR Section 64431. Compliance with the arsenic MCL is
20 based on a "running annual average" (RAA) of the quarterly monitoring samples, computed
21 each quarter, unless the concentration of any one sample causes the annual average to exceed
22 the MCL.

23
24 Samples collected from the Water System from January 2016 through January 2017, detected
25 arsenic concentrations from 0.009 through 0.013 milligrams per Liter (mg/L) in Well No. 19. The
26 Water System's Well No. 12 has been in noncompliance with the arsenic MCL since the year
27 2007 and was issued Compliance Order No. 03-12-08O-039 on December 18, 2008 for
28 noncompliance of the arsenic MCL. A blending project was proposed by the Water System and

1 Well No. 19 was constructed for this purpose. Well No. 12 was disconnected from the
 2 distribution system, so that water from Well No. 12 would only flow through a transmission line
 3 from Well No. 12 to blend with Well No. 19 at a storage tank on the Well No. 19 site. Well No.
 4 12 continues to exceed the arsenic MCL.

5
 6 A summary of the Water System's most recent arsenic monitoring is presented in Table 1
 7 below. All results are as reported to the Division by the laboratory that performed the analysis.
 8

9 **Table 1: Well No. 12 and Well No. 19 Arsenic Monitoring Results**

Sample Quarter	Well No. 12	Well No. 19 (average)
2 nd Quarter of 2016	0.011 mg/L	0.010 mg/L
3 rd Quarter of 2016	0.011 mg/L	0.010 mg/L
4 th Quarter of 2016	0.012 mg/L	0.011 mg/L
1 st quarter of 2017	0.010 mg/L	0.013 mg/L
1 st Quarter 2017 Running Annual Average	0.011 mg/L	0.011 mg/L

10
 11 The 1st quarter 2016 RAA for both Wells Nos. 12 and 19, calculated as the 4 quarterly sample
 12 results averaged over a four quarter period, is 0.011 mg/L, which exceeds the arsenic MCL of
 13 0.010 mg/L.

14
 15 Compliance Order No. 03-12-08O-039 was issued to the Water System on December 18, 2008,
 16 for noncompliance with the arsenic MCL for Well No. 12. This compliance order replaces and
 17 voids Compliance Order No. 03-19-09O-018, and its directives.

18 DETERMINATION

19
 20 CCR, Title 22, Section 64431, Arsenic Maximum Contaminant Level (MCL) states that a public
 21 water system shall comply with the primary arsenic MCL of 0.010 milligrams per liter (mg/L).
 22

1 CCR, Title 22, Section 64432(i) states that compliance with the MCL shall be determined by a
2 running annual average; if any one sample would cause the annual average to exceed the MCL,
3 the system is immediately in violation. If a system takes more than one sample in a quarter, the
4 average of all the results for that quarter shall be used when calculating the running annual
5 average. If a system fails to complete four consecutive quarters of monitoring, the running
6 annual average shall be based on an average of the available data.

7
8 The arsenic RAA for the water produced from Well Nos. 12 and 19 was 0.011 mg/L during the
9 1st quarter of 2017, which exceeds the arsenic MCL. Therefore, the Division has determined that
10 the Water System failed to comply with CCR, Title 22, Section 64431 during the 1st quarter of
11 2017 and further has determined that said violation has continued from 2008 and through the
12 date of this Compliance Order.

13 14 DIRECTIVES

15 The Water System is hereby directed to take the following actions:

- 16
- 17 1. On or before **June 1, 2020** comply with CCR, Title 22, Section 64431 and remain in
18 compliance in all future monitoring periods.
 - 19
 - 20 2. On or before **July 1, 2017**, submit a written response to the Division indicating its
21 agreement to comply with the directives of this Order and with the Corrective Action Plan
22 addressed herein.
 - 23
 - 24 3. Commencing on the date of service of this Order, notify all persons served by the Water
25 System of the failure to meet the arsenic MCL during any calendar quarter that the four-
26 quarter running annual average exceeds the MCL. This shall be done in conformance
27 with CCR, Title 22, Sections 64463.4(b)&(c) and 64465. Copies of Sections 64463.4 and
28 64465 are included in Appendix 1, Appendix 2: Public Notification Template and

1 instructions shall be used to fulfill this directive, unless otherwise approved by the
2 Division.

- 3
- 4 4. Commencing on the date of service of this Order, submit proof of each public notification
5 conducted in compliance with Directive No. 3, herein above, within 10 days following
6 each such notification, using the form provided as Appendix 2, hereto.
- 7
- 8 5. Commencing on the date of service of this Order collect quarterly samples for arsenic
9 from each well, as required by Section 64432(g), and ensure that the analytical results
10 are reported to the Division electronically by the analyzing laboratory no later than the
11 10th day following the month in which the analysis was completed.
- 12
- 13 6. Prepare for Division approval a Corrective Action Plan identifying improvements to the
14 water system designed to correct the water quality problem (violation of the arsenic
15 MCL) and ensure that the Water System delivers water to consumers that meets primary
16 drinking water standards. The plan shall include a time schedule for completion of each
17 of the phases of the project such as design, construction, and startup, and a date as of
18 which the Water System will be in compliance with the arsenic MCL, which date shall be
19 no later than **June 1, 2020**.
- 20
- 21 7. On or before **July 15, 2017**, present the Corrective Action Plan required under Directive
22 No. 6, above, to the Division in person at the Division's offices located at 265 W. Bullard,
23 Suite 101, Fresno, CA 93704.
- 24
- 25 8. Timely perform the Division approved Corrective Action Plan and each and every
26 element of said plan according to the time schedule set forth therein.
- 27

1 9. On or before July 10, 2017 and every three months thereafter, submit a report to the
2 Division in the form provided as Appendix 3, hereto, showing actions taken during the
3 previous calendar three months to comply with the Corrective Action Plan.

4
5 10. Not later than ten (10) days following the date of compliance with the arsenic MCL,
6 demonstrate to the Division that the water delivered by Water System complies with the
7 arsenic MCL.

8
9 11. Notify the Division in writing no later than five (5) days prior to the deadline for
10 performance of any Directive set forth herein if Water System anticipates it will not timely
11 meet such performance deadline.

12
13 All submittals required by this Compliance Order shall be electronically submitted to the Division
14 at the following address. The subject line for all electronic submittals corresponding to this
15 citation shall include the following information: Water System name and number, citation
16 number and title of the document being submitted.

17
18 Tricia A. Wathen, P.E., Senior Sanitary Engineer
19 State Water Resources Control Board
20 Division of Drinking Water, Visalia District
21 265 W. Bullard Ave, Suite 101
22 Fresno, CA 93704

23 Dwpdist12@waterboards.ca.gov

24
25 The State Board reserves the right to make such modifications to this Compliance Order as it
26 may deem necessary to protect public health and safety. Such modifications may be issued as
27 amendments to this Compliance Order and shall be effective upon issuance.

1 Nothing in this Compliance Order relieves the Water System of its obligation to meet the
2 requirements of the California SDWA (CHSC, Division 104, Part 12, Chapter 4, commencing
3 with Section 116270), or any regulation, standard, permit or order issued or adopted thereunder.
4

5 **PARTIES BOUND**

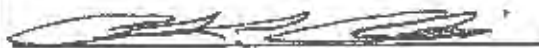
6 This Compliance Order shall apply to and be binding upon the Water System, its owners,
7 shareholders, officers, directors, agents, employees, contractors, successors, and assignees.
8

9 **SEVERABILITY**

10 The directives of this Compliance Order are severable, and the Water System shall comply with
11 each and every provision thereof notwithstanding the effectiveness of any provision.
12
13

FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the State Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Board. The State Board does not waive any further enforcement action by issuance of this Compliance Order.



Carl L. Carlucci, P.E., Chief
Central California Section
State Water Resources Control Board
Division of Drinking Water

5-15-2017

Date



Appendices (6):

1. Applicable Statutes and Regulations
2. Notification Template
3. Certification of Completion of Public Notification Form
4. Quarterly Progress Reporting Form
5. Arsenic Water Quality Data

Certified Mail No. 7011 2070 0000 4896 3582

APPENDIX 1. Applicable Statutes and Regulations for Compliance Order No. 03_12_17R_001

NOTE: The following language is provided for the convenience of the recipient, and cannot be relied upon as the State of California's representation of the law. The published codes are the only official representation of the law. Regulations related to drinking water are in Titles 22 and 17 of the California Code of Regulations. Statutes related to drinking water are in the Health & Safety Code, the Water Code, and other codes.

California Health and Safety Code (CHSC):

Section 116271 states in relevant part:

(a) The State Water Resources Control Board succeeds to and is vested with all of the authority, duties, powers, purposes, functions, responsibilities, and jurisdiction of the State Department of Public Health, its predecessors, and its director for purposes of all of the following:

- (1) The Environmental Laboratory Accreditation Act (Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101).
- (2) Article 3 (commencing with Section 106875) of Chapter 4 of Part 1.
- (3) Article 1 (commencing with Section 115825) of Chapter 5 of Part 10.
- (4) This chapter and the Safe Drinking Water State Revolving Fund Law of 1997 (Chapter 4.5 (commencing with Section 116760)).
- (5) Article 2 (commencing with Section 116800), Article 3 (commencing with Section 116825), and Article 4 (commencing with Section 116875) of Chapter 5.
- (6) Chapter 7 (commencing with Section 116975).
- (7) The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2008 (Division 43 (commencing with Section 75001) of the Public Resources Code).
- (8) The Water Recycling Law (Chapter 7 (commencing with Section 13500) of Division 7 of the Water Code).
- (9) Chapter 7.3 (commencing with Section 13560) of Division 7 of the Water Code.
- (10) The California Safe Drinking Water Bond Law of 1976 (Chapter 10.5 (commencing with Section 13850) of Division 7 of the Water Code).
- (11) Wholesale Regional Water System Security and Reliability Act (Division 20.5 (commencing with Section 73500) of the Water Code).
- (12) Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002 (Division 26.5 (commencing with Section 79500) of the Water Code).

(b) The State Water Resources Control Board shall maintain a drinking water program and carry out the duties, responsibilities, and functions described in this section. Statutory reference to "department," "state department," or "director" regarding a function transferred to the State Water Resources Control Board shall refer to the State Water Resources Control Board. This section does not impair the authority of a local health officer to enforce this chapter or a county's election not to enforce this chapter, as provided in Section 116500...

- (k)
- (1) The State Water Resources Control Board shall appoint a deputy director who reports to the executive director to oversee the issuance and enforcement of public water system permits and other duties as appropriate. The deputy director shall have public health expertise.
 - (2) The deputy director is delegated the State Water Resources Control Board's authority to provide notice, approve notice content, approve emergency notification plans, and take other action pursuant to Article 5 (commencing with Section 116450), to issue, renew, reissue, revise, amend, or deny any public water system permits pursuant to Article 7 (commencing with Section 116525), to suspend or revoke any public water system permit pursuant to Article 8 (commencing with Section 116625), and to issue citations, assess penalties, or issue orders pursuant to Article 9 (commencing with Section 116650). Decisions and actions of the deputy director taken pursuant to Article 5 (commencing with Section 116450) or Article 7 (commencing with Section 116525) are deemed decisions and actions taken, but are not subject to reconsideration, by the State Water Resources Control Board. Decisions and actions of the deputy director taken pursuant to Article 8 (commencing with Section 116625) and Article 9 (commencing with Section 116650) are deemed decisions and actions taken by the State Water Resources Control Board, but any aggrieved person may petition the State Water Resources Control Board for reconsideration of the decision or action. This subdivision is not a limitation on the State Water Resources Control Board's authority to delegate any other powers and duties.

Section 116555 states in relevant part:

(a) Any person who owns a public water system shall ensure that the system does all of the following:

- (1) Complies with primary and secondary drinking water standards.
- (2) Will not be subject to backflow under normal operating conditions.
- (3) Provides a reliable and adequate supply of pure, wholesome, healthful, and potable water.

Section 116650 Citation states in relevant part:

- (a) If the state board determines that a public water system is in violation of this chapter or any regulation, permit, standard, citation, or order issued or adopted thereunder, the state board may issue a citation to the public water system. The citation shall be served upon the public water system personally or by certified mail. Service shall be deemed effective as of the date of personal service or the date of receipt of the certified mail. If a person to whom a citation is directed refuses to accept delivery of the certified mail, the date of service shall be deemed to be the date of mailing.
- (b) Each citation shall be in writing and shall describe the nature of the violation or violations, including a reference to the statutory provision, standard, order, citation, permit, or regulation alleged to have been violated.
- (c) A citation may specify a date for elimination or correction of the condition constituting the violation.
- (d) A citation may include the assessment of a penalty as specified in subdivision (e).
- (e) The state board may assess a penalty in an amount not to exceed one thousand dollars (\$1,000) per day for each day that a violation occurred, and for each day that a violation continues to occur. A separate penalty may be assessed for each violation and shall be in addition to any liability or penalty imposed under any other law.

Section 116655 Orders states in relevant part

(a) Whenever the state board determines that any person has violated or is violating this chapter, or any order, permit, regulation, or standard issued or adopted pursuant to this chapter, the state board may issue an order doing any of the following:

- (1) Directing compliance forthwith.
- (2) Directing compliance in accordance with a time schedule set by the state board.
- (3) Directing that appropriate preventive action be taken in the case of a threatened violation.

(b) An order issued pursuant to this section may include, but shall not be limited to, any or all of the following requirements:

- (1) That the existing plant, works, or system be repaired, altered, or added to.
- (2) That purification or treatment works be installed.
- (3) That the source of the water supply be changed.
- (4) That no additional service connection be made to the system.
- (5) That the water supply, the plant, or the system be monitored.
- (6) That a report on the condition and operation of the plant, works, system, or water supply be submitted to the state board.

California Code of Regulations, Title 22 (CCR):

Section 64431. Maximum Contaminant Levels--Inorganic Chemicals states
Public water systems shall comply with the primary MCLs in table 64431-A as specified in this article.

**Table 64431-A
Maximum Contaminant Levels
Inorganic Chemicals**

<i>Chemical</i>	<i>Maximum Contaminant Level, mg/L</i>
Aluminum	1.
Antimony	0.006
Arsenic	0.010
Asbestos	7 MFL*
Barium	1.
Beryllium	0.004
Cadmium	0.005
Chromium	0.05
Cyanide	0.15
Fluoride	2.0
Hexavalent chromium	0.010
Mercury	0.002
Nickel	0.1
Nitrate (as nitrogen)	10.
Nitrate+Nitrite (sum as nitrogen)	10.
Nitrite (as nitrogen)	1.
Perchlorate	0.006
Selenium	0.05
Thallium	0.002

* MFL=million fibers per liter; MCL for fibers exceeding 10 µm in length.

Section 64432. Monitoring and Compliance—Inorganic Chemicals states

(a) All public water systems shall monitor to determine compliance with the nitrate and nitrite MCLs in table 64431-A, pursuant to subsections (d) through (f) and Section 64432.1. All community and nontransient-noncommunity water systems shall monitor to determine compliance with the perchlorate MCL, pursuant to subsections (d), (e), and (f), and section 64432.3. All community and nontransient-noncommunity water systems shall also monitor to determine compliance with the other MCLs in table 64431-A, pursuant to subsections (b) through (n) and, for asbestos, section 64432.2. Monitoring shall be conducted in the year designated by the State Board of each compliance period beginning with the compliance period starting January 1, 1993.

(b) Unless directed otherwise by the State Board, each community and nontransient-noncommunity water system shall initiate monitoring for an inorganic chemical within six months following the effective date of the regulation establishing the MCL for the chemical and the addition of the chemical to table 64431-A.

(1) If otherwise performed in accordance with this section, groundwater monitoring for an inorganic chemical performed no more than two years prior to the effective date of the regulation establishing the MCL may be used to satisfy the requirement for initiating monitoring within six months following such effective date.

(2) For routine monitoring required in subsection (c), chromium monitoring may be used in lieu of hexavalent chromium monitoring if the chromium results are less than the chromium DLR set forth in table 64432-A.

(c) Unless more frequent monitoring is required pursuant to this Chapter, the frequency of monitoring for the inorganic chemicals listed in table 64431-A, except for asbestos, nitrate/nitrite, and perchlorate, shall be as follows:

(1) Each compliance period, all community and nontransient-noncommunity systems using groundwater shall monitor once during the year designated by the State Board. The State Board will designate the year based on historical monitoring frequency and laboratory capacity. All community and nontransient-noncommunity systems using approved surface water shall monitor annually. All systems monitoring at distribution entry points which have combined surface and groundwater sources shall monitor annually.

(2) Quarterly samples shall be collected and analyzed for any chemical if analyses of such samples indicate a continuous or persistent trend toward higher levels of that chemical, based on an evaluation of previous data.

(d) For the purposes of sections 64432, 64432.1, 64432.2, and 64432.3, detection shall be defined by the detection limits for purposes of reporting (DLRs) in table 64432-A.

Table 64432-A

Detection Limits for Purposes of Reporting (DLRs) for Regulated Inorganic Chemicals

<i>Chemical</i>	<i>Detection Limit for Purposes of Reporting (DLR) (mg/L)</i>
Aluminum	0.05
Antimony	0.005
Arsenic	0.002
Asbestos	0.2 MFL > 10um*
Barium	0.1
Beryllium	0.001
Cadmium	0.001
Chromium	0.01
Cyanide	0.1
Fluoride	0.1
Hexavalent chromium	0.001
Mercury	0.001
Nickel	0.01
Nitrate (as nitrogen)	0.4
Nitrite (as nitrogen)	0.4
Perchlorate	0.004
Selenium	0.005
Thallium	0.001

* MFL=million fibers per liter; DLR for fibers exceeding 10 um in length.

(e) Samples shall be collected from each water source or a supplier may collect a minimum of one sample at every entry point to the distribution system which is representative of each source after treatment. The system shall collect each sample at the same sampling site, unless a change is approved by the State Board.

(f) A water system may request approval from the State Board to composite samples from up to five sampling sites, provided that the number of sites to be composited is less than the ratio of the MCL to the DLR. Approval will be based on a review of three years of historical data, well construction and aquifer information for groundwater, and intake location, similarity of sources, and watershed characteristics for surface water. Compositing shall be done in the laboratory.

State Water Resources Control Board
Division of Drinking Water

May 18, 2018

System No. 1510012

Mr. Scott Taylor, General Manager
Lamont PUD
8624 Segrue Road
Lamont, CA 93241



COMPLIANCE ORDER NO. 03_12_18R_021
1,2,3-TRICHLOROPROPANE (1,2,3-TCP) MAXIMUM CONTAMINANT LEVEL VIOLATION

Enclosed is Compliance Order No. 03_12_18R_021 (hereinafter "Order") issued to the Lamont PUD (hereinafter "Water System") public water system. **Please note there are legally enforceable deadlines associated with this Order starting on page four of the Order.**

The Water System will be billed at the State Water Resources Control Board's (hereinafter "State Water Board") hourly rate for the time spent on issuing this Order. California Health and Safety Code (hereinafter "CHSC"), Section 116577, provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including but not limited to, preparing, issuing and monitoring compliance with an order. At this time, the State Water Board has spent approximately 2 hours on enforcement activities associated with this violation.

The Water System will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on the Water System for the current fiscal year.

Any person who is aggrieved by a citation, order or decision issued under authority delegated to an officer or employee of the state board under Article 8 (commencing with CHSC, Section 116625) or Article 9 (commencing with CHSC, Section 116650), of the Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter 4), may file a petition with the State Water Board for reconsideration of the citation, order or decision. Appendix 1 to the enclosed Citation contains the relevant statutory provisions for filing a petition for reconsideration (CHSC, Section 116701).

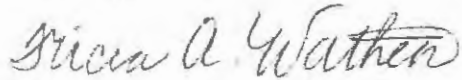
Petitions must be received by the State Water Board within 30 days of the issuance of the citation, order or decision by the officer or employee of the state board. The date of issuance is the date when the Division of Drinking Water mails a copy of the citation, order or decision. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m.

Information regarding filing petitions may be found at:

http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml

If you have any questions regarding this matter, please contact Shawn Demmers of my staff at (559) 447-3136 or me at (559) 447-3300.

Sincerely,



Tricia A. Wathen, P.E.
Senior Sanitary Engineer, Visalia District
SOUTHERN CALIFORNIA BRANCH
DRINKING WATER FIELD OPERATIONS

District webpage: http://www.waterboards.ca.gov/drinking_water/programs/districts/visalia_district.shtml

Certified Mail No. 7018 0040 0000 3159 7605

TAW/SD

Enclosures

cc: Kern County Environmental Health Department
Mr. Rolando Marquez, Chief Operator (8624 Segue Road, Lamont, CA 93241)

2
3 STATE OF CALIFORNIA
4 STATE WATER RESOURCES CONTROL BOARD
5 DIVISION OF DRINKING WATER
6

7 **Name of Public Water System:** Lamont PUD

8 **Water System No:** 1510012

9
10 **Attention:** Mr. Scott Taylor, General Manager

11 8624 Segrue Road

12 Lamont, CA 93241
13

14
15 **Issued:** May 18, 2018
16

17 **COMPLIANCE ORDER FOR NONCOMPLIANCE**
18 **1,2,3-TCP MAXIMUM CONTAMINANT LEVEL VIOLATION**
19 **CALIFORNIA CODE OF REGULATIONS, TITLE 22, SECTION 64444**
20 **1st Quarter 2018**
21

22 The California Health and Safety Code (hereinafter "CHSC"), Section 116655 authorizes the
23 State Water Resources Control Board (hereinafter "State Water Board") to issue a compliance
24 order to a public water system when the State Water Board determines that the public water
25 system has violated or is violating the California Safe Drinking Water Act (hereinafter "California
26 SDWA"), (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any
27 regulation, standard, permit, or order issued or adopted thereunder.

1 The State Water Board, acting by and through its Division of Drinking Water (hereinafter
2 "Division") and the Deputy Director for the Division, hereby issues Compliance Order No.
3 03_12_18R_021 (hereinafter "Order") pursuant to Section 116655 of the CHSC to the Lamont
4 PUD (hereinafter "Water System") for violation of CHSC, Section 116555(a)(1) and California
5 Code of Regulations (hereinafter "CCR"), Title 22, Section 64444 Maximum Contaminant Levels
6 (hereinafter "MCL") – Organic Chemicals.

7
8 A copy of the applicable statutes and regulations are included in Appendix 1, which is attached
9 hereto and incorporated by reference.

11 STATEMENT OF FACTS

12 The Water System is classified as a community public water system with a population of 19,057
13 persons served through 3,300 service connections. The Lamont PUD operates under Domestic
14 Water Supply Permit No. 03-12-17PA-002 issued by the State Water Board on May 10, 2017.
15 The Water System utilizes eight groundwater wells as its source of domestic water: Well 05-
16 Raw, Well 11-Raw, Well 12-Raw, Well 13-Raw, Well 15-Raw, Well 17-Raw, Well 18-
17 Before_GAC_123TCP, and Well 19-Raw. Well 18 has Granular Activated Carbon (GAC)
18 treatment in place for the removal of 1,2,3-TCP. In addition, the Water System was also issued
19 Compliance Order No. 03_12_17R_001 on May 15, 2017 for violation of the Arsenic MCL in Well
20 12-Raw and Well 19-Raw.

21
22 CHSC, Section 116555(a)(1) requires all public water systems to comply with primary drinking
23 water standards as defined in CHSC, Section 116275(c). Primary drinking water standards
24 include maximum levels of contaminants and the monitoring and reporting requirements as
25 specified in regulations adopted by the State Water Board that pertain to maximum contaminant
26 levels.

The State Water Board received laboratory results for one 1,2,3-TCP sample collected on February 20, 2018 from Well 05-Raw. The sample showed a 1,2,3-TCP concentration of 0.000064 milligrams per liter (hereinafter "mg/L"). A summary of the Water System's most recent 1,2,3-TCP monitoring results are presented in Table 1 below:

Table 1 – Well 05-Raw 1,2,3-TCP Sample Results (mg/L)
(1,2,3-TCP MCL is 0.000005 mg/L)

Compliance Period	Sample Date	Result	Average
1 st Quarter 2018	February 20, 2018	0.000064	0.000064 ;
1 st Qtr confirmation 2018	---	---	
Running Annual Average (RAA)			0.000009*

* If any one sample or average of monthly samples would cause the annual average to exceed the MCL, the water system is immediately in violation.

1,2,3-TCP results from Well 11-Raw, Well 13-Raw, and Well 17-Raw are also showing detections of 1,2,3-TCP. Well 11-Raw, Well 13-Raw, and Well 17-Raw were sampled for 1,2,3-TCP on February 20, 2018. The samples showed 1,2,3-TCP concentrations of 0.000019 mg/L, 0.000024 mg/L, and 0.000018 mg/L, respectively. The Water System will continue with initial monitoring of these wells.

DETERMINATION

CCR, Title 22, Section 64444, Maximum Contaminant Levels – Organic Chemicals states that public water systems shall comply with the primary MCLs established in table 64444-A (see Appendix 1). The MCL for 1,2,3-TCP is 0.000005 mg/L.

CCR, Title 22, Section 64445. 1(c)(5)(B) Repeat Monitoring and Compliance – Organic Chemicals states that water systems serving more than 3,300 persons shall sample monthly for six months and shall submit the results to the State Board as specified in section 64469. If the average concentration of the initial finding, confirmation sample(s), and six subsequent monthly samples does not exceed the MCL shown in table 64444-A the water supplier may reduce the sampling frequency to once every three months. If the running annual average or the average

1 concentration of the initial finding, confirmation sample(s), and six subsequent monthly samples
2 exceeds the MCL shown in table 64444-A, the water system shall be deemed to be in violation
3 of section 64444.

4
5 CCR, Title 22, Section 64445.1(c)(5)(C) Repeat Monitoring and Compliance – Organic
6 Chemicals states that if any sample would cause the running annual average to exceed the MCL,
7 the water system is immediately in violation. If a system takes more than one sample in a quarter,
8 the average of all the results for that quarter shall be used when calculating the running annual
9 average. If a system fails to complete four consecutive quarters of monitoring, the running annual
10 average shall be based on an average of the available data.

11
12 The 1,2,3-TCP RAA from Well 05-Raw is 0.000009 mg/L. Therefore, the State Water Board has
13 determined that the Water System has failed to comply with primary drinking water standards
14 pursuant to CHSC, Section 116555(a)(1) and the 1,2,3-TCP MCL pursuant to CCR, Title 22,
15 Section 64444 during the **1st Quarter 2018**.

16
17 *Furthermore, this Order will extend to the Water System's additional source(s) in the event a*
18 *compliance determination, made by the State Water Board, finds the Water System's additional*
19 *source(s) fail to comply with primary drinking water standards pursuant to CHSC, Section*
20 *116555(a)(1) and the 1,2,3-TCP MCL pursuant to CCR, Title 22, Section 64444.*

21
22 **DIRECTIVES**

23 To ensure that the water supplied by the Water System is at all times safe, wholesome, healthful,
24 and potable, the Water System is hereby directed to take the following actions.

- 25
26 1. On or before **May 18, 2021**, comply with CCR, Title 22, Section 64444.

- 1 2. Quarterly sampling for 1,2,3-TCP from Well 05-Raw shall begin with the 2nd quarter of
2 2018 and shall continue every three months thereafter. The Water System shall ensure
3 that the laboratory, which conducts the analysis, submits the analytical results
4 electronically by State Water Board approved method no later than the 10th day following
5 the month in which the analysis was completed.
6
- 7 3. Monthly sampling for 1,2,3-TCP from Well 11-Raw, Well 13-Raw, and Well 17-Raw shall
8 continue until six months have been completed or a compliance determination is made
9 by the State Water Board that the 1,2,3-TCP MCL is in violation.
10
- 11 4. By **May 31, 2018**, public notification to the customers of the Water System shall be
12 conducted and shall continue every three months until the State Water Board determines
13 that the 1,2,3-TCP contamination is resolved. Public Notification shall be conducted in
14 conformance with CCR, Title 22, Sections 64463.4 and 64465. Appendix 2: Notification
15 Template shall be used to fulfill this directive, unless otherwise approved by the State
16 Water Board.
17
- 18 5. Complete Appendix 3: Certification of Completion of Notification Form. Submit it together
19 with a copy of the public notification conducted in compliance with the public notification
20 requirement listed above to the State Water Board within 10 days following each
21 notification.
22
- 23 6. Prepare for State Water Board approval, a Corrective Action Plan, identifying
24 improvements to the water system designed to correct the water quality problems
25 identified as an exceedance of the 1,2,3-TCP MCL and ensure that the Water System
26 delivers water to consumers that meets primary drinking water standards. The plan shall
27 include a time schedule for completion of each of the phases of the project such as

1 design, construction, and startup, and a date as of which the Water System will be in
2 compliance with the 1,2,3-TCP MCL, which date shall be no later than **May 18, 2021**.

3
4 7. On or before **June 20, 2018**, submit and present the Corrective Action Plan required
5 under Directive No. 6 above, to the State Water Board's office located at 265 W Bullard
6 Avenue, Fresno, CA 93704.

7
8 8. Perform the State Water Board approved Corrective Action Plan, and each and every
9 element of said plan, according to the time schedule set forth therein.

10
11 9. On or before **June 20, 2018**, the Water System shall submit a plan to the State Water
12 Board of how the use of Well 05 will be minimized to reduce 1,2,3-TCP exposure from
13 water produced at this well.

14
15 10. On or before **May 31, 2018**, and every month thereafter, the Water System must record
16 the monthly production at all of their sources, and submit a running report of the monthly
17 production from each source to the State Water Board.

18
19 11. On or before **June 30, 2018**, and every three months thereafter, submit a report to the
20 State Water Board in the form provided as Appendix 4 showing actions taken during the
21 previous quarter (calendar three months) to comply with the Corrective Action Plan.

22
23 12. This Order and its directives shall become effective for any additional Water System
24 source(s) in the event that the State Water Board determines that other sources are in
25 violation of the 1,2,3-TCP MCL. The Water System should take into account that the
26 likelihood of this occurring is highly possible and include any additional sources in the
27 Corrective Action Plan with an appropriate timeline.

28

1 13. Not later than ten (10) days following **May 18, 2021**, demonstrate to the State Water
2 Board that the water delivered by the Water System complies with the 1,2,3-TCP MCL.

3
4 14. Notify the State Water Board in writing no later than five (5) days prior to the deadline for
5 performance of any Directive set forth herein if the Water System anticipates it will not
6 timely meet such performance deadline.

7
8 15. By **June 8, 2018**, complete and return to the State Water Board the "Notification of
9 Receipt" form attached to this Order as Appendix 5. Completion of this form confirms
10 that the Water System has received this Order and understands that it contains legally
11 enforceable directives with due dates.

12
13 All submittals, with exception of analytical results, required by this Order shall be electronically
14 submitted to the State Water Board at the following address. The subject line for all electronic
15 submittals corresponding to this Order shall include the following information: Water System
16 name and number, compliance order number and title of the document being submitted.

17
18 Tricia A. Wathen, P.E., Senior Sanitary Engineer
19 State Water Resources Control Board
20 Division of Drinking Water, Visalia District
21 265 W. Bullard Ave, Suite 101
22 Fresno, CA 93704

23 Dwpdist12@waterboards.ca.gov

24
25 The State Water Board reserves the right to make modifications to this Order as it may deem
26 necessary to protect public health and safety. Such modifications may be issued as
27 amendments to this Order and shall be effective upon issuance.

28

1 Nothing in this Order relieves the Water System of its obligation to meet the requirements of the
2 California SDWA (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270),
3 or any regulation, standard, permit or order issued or adopted thereunder.

4

5

PARTIES BOUND

6 This Order shall apply to and be binding upon the Water System, its owners, shareholders,
7 officers, directors, agents, employees, contractors, successors, and assignees.

8

9

SEVERABILITY

10 The directives of this Order are severable, and the Water System shall comply with each and
11 every provision thereof notwithstanding the effectiveness of any provision.

FURTHER ENFORCEMENT ACTION

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The California SDWA authorizes the State Water Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Water Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Water Board. The State Water Board does not waive any further enforcement action by issuance of this Order.



Carl L. Carlucci, P.E., Chief
Central California Section
State Water Resources Control Board
Division of Drinking Water

5-18-2018

Date



- Appendices (5)
- 1. Applicable Statutes and Regulations
 - 2. Notification Template
 - 3. Certification of Completion of Public Notification
 - 4. Quarterly Progress Report
 - 5. Notification of Receipt

Certified Mail No. 7018 0040 0000 3159 7605

**APPENDIX 1. APPLICABLE STATUTES AND REGULATIONS FOR
Compliance Order No. 03_12_18R_021
1,2,3-TCP Maximum Contaminant Level Violation**

NOTE: The following language is provided for the convenience of the recipient, and cannot be relied upon as the State of California's representation of the law. The published codes are the only official representation of the law. Regulations related to drinking water are in Titles 22 and 17 of the California Code of Regulations. Statutes related to drinking water are in the Health & Safety Code, the Water Code, and other codes.

California Health and Safety Code (CHSC):

Section 116271. Transition of CDPH duties to State Board states in relevant part:

(a) The state board succeeds to and is vested with all of the authority, duties, powers, purposes, functions, responsibilities, and jurisdiction of the State Department of Public Health, its predecessors, and its director for purposes of all of the following:

- (1) The Environmental Laboratory Accreditation Act (Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101).
- (2) Article 3 (commencing with Section 106875) of Chapter 4 of Part 1.
- (3) Article 1 (commencing with Section 115825) of Chapter 5 of Part 10.
- (4) This chapter and the Safe Drinking Water State Revolving Fund Law of 1997 (Chapter 4.5 (commencing with Section 116760)).
- (5) Article 2 (commencing with Section 116800), Article 3 (commencing with Section 116825), and Article 4 (commencing with Section 116875) of Chapter 5.
- (6) Chapter 7 (commencing with Section 116975).
- (7) The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Division 43 (commencing with Section 75001) of the Public Resources Code).
- (8) The Water Recycling Law (Chapter 7 (commencing with Section 13500) of Division 7 of the Water Code).
- (9) Chapter 7.3 (commencing with Section 13560) of Division 7 of the Water Code.
- (10) The California Safe Drinking Water Bond Law of 1976 (Chapter 10.5 (commencing with Section 13850) of Division 7 of the Water Code).
- (11) Wholesale Regional Water System Security and Reliability Act (Division 20.5 (commencing with Section 73500) of the Water Code).
- (12) Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002 (Division 26.5 (commencing with Section 79500) of the Water Code).

(b) The state board shall maintain a drinking water program and carry out the duties, responsibilities, and functions described in this section. Statutory reference to "department," "state department," or "director" regarding a function transferred to the state board shall refer to the state board. This section does not impair the authority of a local health officer to enforce this chapter or a county's election not to enforce this chapter, as provided in Section 116500...

(k)

(1) The state board shall appoint a deputy director who reports to the executive director to oversee the issuance and enforcement of public water system permits and other duties as appropriate. The deputy director shall have public health expertise.

(2) The deputy director is delegated the state board's authority to provide notice, approve notice content, approve emergency notification plans, and take other action pursuant to Article 5 (commencing with Section 116450), to issue, renew, reissue, revise, amend, or deny any public water system permits pursuant to Article 7 (commencing with Section 116525), to suspend or revoke any public water system permit pursuant to Article 8 (commencing with Section 116625), and to issue citations, assess penalties, or issue orders pursuant to Article 9 (commencing with Section 116650). Decisions and actions of the deputy director taken pursuant to Article 5 (commencing with Section 116450) or Article 7 (commencing with Section 116525) are deemed decisions and actions taken by the state board, but are not subject to reconsideration by the state board except as provided in Section 116540. Decisions and actions of the deputy director taken pursuant to Article 8 (commencing with Section 116625) and Article 9 (commencing with Section 116650) are deemed decisions and actions taken by the state board, but any aggrieved person may petition the state board for reconsideration of the decision or action. This subdivision is not a limitation on the state board's authority to delegate any other powers and duties.

Section 116275. Definitions states in relevant part:

(c) "Primary drinking water standards" means:

- (1) Maximum levels of contaminants that, in the judgment of the state board, may have an adverse effect on the health of persons.
- (2) Specific treatment techniques adopted by the state board in lieu of maximum contaminant levels pursuant to subdivision (j) of Section 116365.
- (3) The monitoring and reporting requirements as specified in regulations adopted by the state board that pertain to maximum contaminant levels.

Section 116555. Operational requirements states in relevant part:

- (a) Any person who owns a public water system shall ensure that the system does all of the following:
- (1) Complies with primary and secondary drinking water standards.
 - (2) Will not be subject to backflow under normal operating conditions.
 - (3) Provides a reliable and adequate supply of pure, wholesome, healthful, and potable water.

Section 116577. Enforcement fee states:

(a) Each public water system shall reimburse the state board for actual costs incurred by the state board for any of the following enforcement activities related to that water system:

- (1) Preparing, issuing, and monitoring compliance with, an order or a citation.
- (2) Preparing and issuing public notification.
- (3) Conducting a hearing pursuant to Section 116625.

(b) The state board shall submit an invoice for these enforcement costs to the public water system that requires payment before September 1 of the fiscal year following the fiscal year in which the costs were incurred. The invoice shall indicate the total hours expended, the reasons for the expenditure, and the hourly cost rate of the state board. The costs set forth in the invoice shall not exceed the total actual costs to the state board of enforcement activities specified in this section.

(c) Notwithstanding the reimbursement of enforcement costs of the local primacy agency pursuant to subdivision (a) of Section 116595 by a public water system under the jurisdiction of the local primacy agency, a public water system shall also reimburse enforcement costs, if any, incurred by the state board pursuant to this section.

(d) "Enforcement costs," as used in this section, does not include "litigation costs" pursuant to Section 116585.

(e) The state board shall not be entitled to enforcement costs pursuant to this section if a court determines that enforcement activities were in error.

(f) Payment of the invoice shall be made within 90 days of the date of the invoice. Failure to pay the invoice within 90 days shall result in a 10-percent late penalty that shall be paid in addition to the invoiced amount.

(g) The state board may, at its sole discretion, waive payment by a public water system of all or any part of the invoice or penalty.

Section 116625. Revocation and suspension of permits states:

(a) The state board, after providing notice to the permittee and opportunity for a hearing, may suspend or revoke any permit issued pursuant to this chapter if the state board determines pursuant to the hearing that the permittee is not complying with the permit, this chapter, or any regulation, standard, or order issued or adopted thereunder, or that the permittee has made a false statement or representation on any application, record, or report maintained or submitted for purposes of compliance with this chapter. If the permittee does not request a hearing within the period specified in the notice, the state board may suspend or revoke the permit without a hearing. If the permittee submits a timely request for a hearing, the hearing shall be before the state board or a member of the state board, in accordance with Section 183 of the Water Code and the rules for adjudicative proceedings adopted under Section 185 of the Water Code. If the permit at issue has been temporarily suspended pursuant to subdivision (b), the notice shall be provided within 15 days of the effective date of the temporary suspension order. The commencement of the hearing under this subdivision shall be as soon as practicable, but no later than 60 days after the effective date of the temporary suspension order, unless the state board grants an extension of the 60 day period upon request of the permittee.

(b) The state board may temporarily suspend any permit issued pursuant to this chapter before any hearing when the action is necessary to prevent an imminent or substantial danger to health. The state board shall notify the permittee of the temporary suspension and the effective date of the temporary suspension and, at the same time, notify the permittee that a hearing has been scheduled. The hearing shall be held as soon as possible, but not later than 15 days after the effective date of the temporary suspension unless the state board grants an extension of the 15 day period upon request of the permittee, and shall deal only with the issue of whether the temporary suspension shall remain in place pending a hearing under subdivision (a). The hearing shall be conducted under the rules for adjudicative proceedings adopted by the state board under Section 185 of the Water Code. The temporary suspension shall remain in effect until the hearing under this subdivision is completed and the state board has made a final determination on the temporary suspension, which shall be made within 15 days after the completion of the hearing unless the state board grants an extension of the 15 day period upon request of the permittee. If the determination is not transmitted within 15 days after the hearing is completed, or any extension of this period requested by the permittee, the temporary suspension shall be of no further effect. Dissolution of the temporary suspension does not deprive the state board of jurisdiction to proceed with a hearing on the merits under subdivision (a).

Section 116650. Citations states:

(a) If the state board determines that a public water system is in violation of this chapter or any regulation, permit, standard, citation, or order issued or adopted thereunder, the state board may issue a citation to the public water system. The citation shall be served upon the public water system personally or by certified mail. Service shall be deemed effective as of the date of personal service or the date of receipt of the certified mail. If a person to whom a citation is directed refuses to accept delivery of the certified mail, the date of service shall be deemed to be the date of mailing.

- (b) Each citation shall be in writing and shall describe the nature of the violation or violations, including a reference to the statutory provision, standard, order, citation, permit, or regulation alleged to have been violated.
- (c) A citation may specify a date for elimination or correction of the condition constituting the violation.
- (d) A citation may include the assessment of a penalty as specified in subdivision (e).
- (e) The state board may assess a penalty in an amount not to exceed one thousand dollars (\$1,000) per day for each day that a violation occurred, and for each day that a violation continues to occur. A separate penalty may be assessed for each violation and shall be in addition to any liability or penalty imposed under any other law.

Section 116655. Orders states:

- (a) Whenever the state board determines that any person has violated or is violating this chapter, or any order, permit, regulation, or standard issued or adopted pursuant to this chapter, the state board may issue an order doing any of the following:
 - (1) Directing compliance forthwith.
 - (2) Directing compliance in accordance with a time schedule set by the state board.
 - (3) Directing that appropriate preventive action be taken in the case of a threatened violation.
- (b) An order issued pursuant to this section may include, but shall not be limited to, any or all of the following requirements:
 - (1) That the existing plant, works, or system be repaired, altered, or added to.
 - (2) That purification or treatment works be installed.
 - (3) That the source of the water supply be changed.
 - (4) That no additional service connection be made to the system.
 - (5) That the water supply, the plant, or the system be monitored.
 - (6) That a report on the condition and operation of the plant, works, system, or water supply be submitted to the state board.

Section 116701. Petitions to Orders and Decisions states:

- (a)
 - (1) Within 30 days of issuance of an order or decision under authority delegated to an officer or employee of the state board under Article 8 (commencing with Section 116625) or Article 9 (commencing with Section 116650), an aggrieved person may petition the state board for reconsideration.
 - (2) Within 30 days of issuance of an order or decision under authority delegated to an officer or employee of the state board under Section 116540, the applicant may petition the state board for reconsideration.
 - (3) Within 30 days of final action by an officer or employee of the state board acting under delegated authority, the owner of a laboratory that was the subject of the final action may petition the state board for reconsideration of any of the following actions:
 - (A) Denial of an application for certification or accreditation under Section 100855.
 - (B) Issuance of an order directing compliance under Section 100875.
 - (C) Issuance of a citation under Section 100880.
 - (D) Assessment of a penalty under subdivision (e) of Section 100880.
- (b) The petition shall include the name and address of the petitioner, a copy of the order or decision for which the petitioner seeks reconsideration, identification of the reason the petitioner alleges the issuance of the order was inappropriate or improper, the specific action the petitioner requests, and other information as the state board may prescribe. The petition shall be accompanied by a statement of points and authorities of the legal issues raised by the petition.
- (c) The evidence before the state board shall consist of the record before the officer or employee who issued the order or decision and any other relevant evidence that, in the judgment of the state board, should be considered to implement the policies of this chapter. The state board may, in its discretion, hold a hearing for receipt of additional evidence.
- (d) The state board may refuse to reconsider the order or decision if the petition fails to raise substantial issues that are appropriate for review, may deny the petition upon a determination that the issuance of the order or decision was appropriate and proper, may set aside or modify the order or decision, or take other appropriate action. The state board's action pursuant to this subdivision shall constitute the state board's completion of its reconsideration.
- (e) The state board, upon notice and hearing, if a hearing is held, may stay in whole or in part the effect of the order or decision subject to the petition for reconsideration.
- (f) If an order or decision is subject to reconsideration under this section, the filing of a petition for reconsideration is an administrative remedy that must be exhausted before filing a petition for writ of mandate under Section 100920.5 or 116700.

California Code of Regulations, Title 22 (CCR):

Section 64444. Maximum Contaminant Levels--Organic Chemicals states:

The MCLs for the primary drinking water chemicals shown in table 64444-A shall not be exceeded in the water supplied to the public.

**Table 64444-A
 Maximum Contaminant Levels Organic Chemicals**

<i>Chemical</i>	<i>Maximum Contaminant Level, mg/L</i>
(a) Volatile Organic Chemicals (VOCs)	
Benzene	0.001
Carbon Tetrachloride	0.0005
1,2-Dichlorobenzene	0.6
1,4-Dichlorobenzene	0.005
1,1-Dichloroethane	0.005
1,2-Dichloroethane	0.0005
1,1-Dichloroethylene	0.006
cis-1,2-Dichloroethylene	0.006
trans-1,2-Dichloroethylene	0.01
Dichloromethane	0.005
1,2-Dichloropropane	0.005
1,3-Dichloropropene	0.0005
Ethylbenzene	0.3
Methyl- <i>tert</i> -butyl ether	0.013
Monochlorobenzene	0.07
Styrene	0.1
1,1,2,2-Tetrachloroethane	0.001
Tetrachloroethylene	0.005
Toluene	0.15
1,2,4-Trichlorobenzene	0.005
1,1,1-Trichloroethane	0.200
1,1,2-Trichloroethane	0.005
Trichloroethylene	0.005
Trichlorofluoromethane	0.15
1,1,2-Trichloro-1,2,2-Trifluoroethane	1.2
Vinyl Chloride	0.0005
Xylenes	1.750*

**Table 64444-A (continued)
 Maximum Contaminant Levels Organic Chemicals**

<i>Chemical</i>	<i>Maximum Contaminant Level, mg/L</i>
(b) Synthetic Organic Chemicals (SOCs)	
Alachlor	0.002
Atrazine	0.001
Bentazon	0.018
Benzo(a)pyrene	0.0002
Carbofuran	0.018
Chlordane	0.0001
2,4-D	0.07
Dalapon	0.2
Dibromochloropropane	0.0002
Di(2-ethylhexyl)adipate	0.4
Di(2-ethylhexyl)phthalate	0.004
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Endrin	0.002

Ethylene Dibromide	0.00005
Glyphosate	0.7
Heptachlor	0.00001
Heptachlor Epoxide	0.00001
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Lindane	0.0002
Methoxychlor	0.03
Molinate	0.02
Oxamyl	0.05
Pentachlorophenol	0.001
Picloram	0.5
Polychlorinated Biphenyls	0.0005
Simazine	0.004
Thiobencarb	0.07
Toxaphene	0.003
1,2,3-Trichloropropane	0.000005
2,3,7,8-TCDD (Dioxin)	3 x 10 ⁻⁸
2,4,5-TP (Silvex)	0.05

Section 64445. Initial Sampling - Organic Chemicals states

(a) Each community and nontransient-noncommunity water system shall collect four quarterly samples during the year designated by the State Board of each compliance period beginning with the compliance period starting January 1, 1993, from each water source at a site prior to any treatment and test for all applicable organic chemicals listed in table 64444-A. The State Board will designate the year based on historical monitoring frequency and laboratory capacity. For surface sources, the samples shall be taken at each water intake. For groundwater sources, the samples shall be taken at each well head. Where multiple intakes or wells draw from the same water supply, the State Board will consider sampling of representative sources as a means of complying with this section. Selection of representative sources shall be based on evidence which includes a hydrogeological survey and sampling results. Wells shall be allowed to flow for a minimum of 15 minutes before sampling to insure that the samples reflect the water quality of the source. In place of water source samples, a supplier may collect samples at sites located at the entry points to the distribution system. The samples shall be representative of each source after treatment. The system shall collect each sample at the same sampling site, unless a change is approved by the State Board.

(b) For any organic chemical added to table 64444-A, the water system shall initiate the quarterly monitoring for that chemical in January of the calendar year after the effective date of the MCL.

(c) A water system may request approval from the State Board to composite samples from up to five sampling sites, provided that the number of the sites to be composited is less than the ratio of the MCL to the DLR in §64445.1. Approval will be based on a review of three years of historical data, well construction and aquifer information for groundwater, and intake location, similarity of sources, and watershed characteristics for surface water. Compositing shall be done in the laboratory and analyses shall be conducted within 14 days of sample collection.

(1) Systems serving more than 3,300 persons shall composite only from sampling sites within a single system. Systems serving 3,300 persons or less may composite among different systems up to the 5-sample limit.

(2) If any organic chemical is detected in the composite sample, a follow-up sample shall be analyzed within 14 days from each sampling site included in the composite for the contaminants which were detected. The water supplier shall report the results to the State Board within 14 days of the follow-up sample collection. If available, duplicates of the original sample taken from each sampling site used in the composite may be used instead of resampling.

(d) A water system may apply to the State Board for a monitoring waiver for one or more of the organic chemicals on table 64444-A in accordance with the following:

(1) A source may be eligible for a waiver if it can be documented that the chemical has not been previously used, manufactured, transported, stored, or disposed of within the watershed or zone of influence and therefore, that the source can be designated nonvulnerable.

(2) If previous use of the chemical locally is unknown or the chemical is known to have been used previously and the source cannot be designated nonvulnerable pursuant to Paragraph (d)(1), it may still be eligible for a waiver based on a review related to susceptibility to contamination. The application to the State Board for a waiver based on susceptibility shall include the following:

- (A) previous monitoring results;
- (B) user population characteristics;
- (C) proximity to sources of contamination;
- (D) surrounding land uses;
- (E) degree of protection of the water source;
- (F) environmental persistence and transport of the chemical in water, soil and air;
- (G) elevated nitrate levels at the water supply source; and

(H) historical system operation and maintenance data including previous State Board inspection results.

(3) To apply for a monitoring waiver for VOCs, the water system shall have completed the initial four quarters of monitoring pursuant to subsection (a) or three consecutive years of monitoring with no VOCs detected. If granted a waiver for VOC monitoring, a system using groundwater shall collect a minimum of one sample from every sampling site every six years and a system using surface water shall not be required to monitor for the term of the waiver. The term of a VOC waiver shall not exceed three years.

(4) To obtain a monitoring waiver for one or more of the SOC(s), the water system may apply before doing the initial round of monitoring or shall have completed three consecutive years of annual monitoring with no detection of the SOC(s) listed. If the system is granted a waiver for monitoring for one or more SOC(s), no monitoring for the waived SOC(s) shall be required for the term of the waiver, which shall not exceed three years.

(e) For water sources designated by a water supplier as standby sources, the water supplier shall sample each source for any organic chemical added to table 64444-A once within the three-year period beginning in January of the calendar year after the effective date of the MCL.

(f) Water quality data collected prior to January 1, 1988, for VOCs, or January 1, 1990, for SOC(s), and/or data collected in a manner inconsistent with this section shall not be used in the determination of compliance with the monitoring requirements for organic chemicals.

(g) MTBE data (i.e., a single sample) collected in a manner consistent with this section after January 1, 1998 in which no MTBE is detected, along with a designation of nonvulnerability pursuant to subsection (d), may be used to satisfy the initial monitoring requirements in subsection (a). If the requirements are satisfied in this way by a water system, the system shall begin annual monitoring pursuant to section 64445.1(b)(1).

(h) Water quality data collected in compliance with the monitoring requirements of this section by a wholesaler agency providing water to a public water system shall be acceptable for use by that system for compliance with the monitoring requirements of this section.

(i) Results obtained from groundwater monitoring performed for an organic chemical in accordance with this section and not more than two calendar years prior to the effective date of a regulation establishing the MCL for that organic chemical may be substituted to partially satisfy the initial monitoring requirements required by this section for that organic chemical. Requests to substitute groundwater monitoring results shall be made in accordance with the following:

1. Requests shall be made in writing by the water system to the State Board; and
2. If the State Board approves the request then results from a given calendar quarter will only be eligible to substitute for a single required initial monitoring result during that same quarter of initial monitoring. (e.g. the second quarter of 2016 may be substituted for the second quarter of 2018).
3. No more than three of the four quarterly samples as required by section 64445(a) or (b) may be substituted.

Section 64445.1. Repeat Monitoring and Compliance – Organic Chemicals.

(a) For the purposes of this article, detection shall be defined by the detection limits for purposes of reporting (DLRs) in table 64445.1-A:

**Table 64445.1-A
 Detection Limits for Purposes of Reporting (DLRs)
 for Regulated Organic Chemicals**

<i>Chemical</i>	<i>Detection Limit for Purposes of Reporting (DLR)(mg/L)</i>
(a) All VOCs, except as listed	0.0005
Methyl-tert-butyl ether	0.003
Trichlorofluoromethane	0.005
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.01
(b) SOC(s)	
Alachlor	0.001
Atrazine	0.0005
Bentazon	0.002
Benzo(a)pyrene	0.0001
Carbofuran	0.005
Chlordane	0.0001
2,4-D	0.01
Dalapon	0.01
Dibromochloropropane (DBCP)	0.00001
Di(2-ethylhexyl)adipate	0.005

Di(2-ethylhexyl)phthalate	0.003
Dinoseb	0.002
Diquat	0.004
Endothall	0.045
Endrin	0.0001
Ethylene dibromide (EDB)	0.00002
Glyphosate	0.025
Heptachlor	0.00001
Heptachlor epoxide	0.00001
Hexachlorobenzene	0.0005
Hexachlorocyclopentadiene	0.001
Lindane	0.0002
Methoxychlor	0.01
Molinate	0.002
Oxamyl	0.02
Pentachlorophenol	0.0002
Picloram	0.001
Polychlorinated biphenyls (PCBs) (as decachlorobiphenyl)	0.0005
Simazine	0.001
Thiobencarb	0.001
Toxaphene	0.001
1,2,3-Trichloropropane	0.000005
2,3,7,8-TCDD (Dioxin)	5 x 10-9
2,4,5-TP (Silvex)	0.001

(b) When organic chemicals are not detected pursuant to table 64445.1-A.

(1) A water system which has not detected any of the VOCs on table 64444-A during the initial four quarters of monitoring, shall collect and analyze one sample annually. After a minimum of three years of annual sampling with no detection of a VOC in table 64444-A, a system using groundwater may reduce the monitoring frequency to one sample during each compliance period. A system using surface water shall continue monitoring annually.

(2) A system serving more than 3,300 persons which has not detected an SOC on table 64444-A during the initial four quarters of monitoring shall collect a minimum of two quarterly samples for that SOC in one year during the year designated by the State Board of each subsequent compliance period. The year will be designated on the basis of historical monitoring frequency and laboratory capacity.

(3) A system serving 3,300 persons or less which has not detected an SOC on table 64444-A during the initial four quarters of monitoring shall collect a minimum of one sample for that SOC during the year designated by the State Board of each subsequent compliance period. The year will be designated on the basis of historical monitoring frequency and laboratory capacity.

(c) When organic chemicals are detected pursuant to table 64445.1-A.

(1) Prior to proceeding with the requirements of paragraphs (2) through (7), the water supplier may first confirm the analytical result, as follows: Within seven days from the notification of an initial finding from a laboratory reporting the presence of one or more organic chemicals in a water sample, the water supplier shall collect one or two additional sample(s) to confirm the initial finding. Confirmation of the initial finding shall be shown by the presence of the organic chemical in either the first or second additional sample, and the detected level of the contaminant for compliance purposes shall be the average of the initial and confirmation sample(s). The initial finding shall be disregarded if two additional samples do not show the presence of the organic chemical.

(2) If one or both of the related organic chemicals heptachlor and heptachlor epoxide are detected, subsequent monitoring shall analyze for both chemicals until there has been no detection of either chemical for one compliance period.

(3) A groundwater sampling site at which one or more of the following chemicals has been detected shall be monitored quarterly for vinyl chloride: trichloroethylene, tetrachloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, or 1,1-dichloroethylene. If vinyl chloride is not detected in the first quarterly sample, the sampling site shall be monitored once for vinyl chloride during each compliance period.

(4) If the detected level of organic chemicals for any sampling site does not exceed any shown in table 64444-A, the water source shall be resampled every three months and the samples analyzed for the detected chemicals. After one year of sampling an approved surface water system or two quarters of sampling a groundwater system, the State Board will consider allowing the water supplier to reduce the sampling to once per year upon request, based on a review of previous sampling data. Systems shall monitor during the quarter(s) which previously yielded the highest analytical results.

(5) If the detected level of an organic chemical for any sampling site exceeds that listed in table 64444-A, the water supplier shall report this information to the State Board within 48 hours of receipt of the result. Unless use of the

contaminated source is discontinued, the water supplier shall resample the contaminated source and compliance shall be determined as follows:

(A) Water systems serving more than 3,300 persons shall sample monthly for six months and shall submit the results to the State Board as specified in section 64469. If the average concentration of the initial finding, confirmation sample(s), and six subsequent monthly samples does not exceed the MCL shown in table 64444-A the water supplier may reduce the sampling frequency to once every three months. If the running annual average or the average concentration of the initial finding, confirmation sample(s), and six subsequent monthly samples exceeds the MCL shown in table 64444-A, the water system shall be deemed to be in violation of section 64444.

(B) Water systems serving 3,300 persons or less shall sample quarterly for a minimum of one year and shall submit the results to the State Board as specified in section 64469. If the running annual average concentration does not exceed the MCL in table 64444-A, the water supplier may reduce the sampling frequency to once every year during the quarter that previously yielded the highest analytical result. Quarterly monitoring shall resume if any reduced frequency sample result exceeds the MCL. If the running annual average concentration exceeds the MCL in table 64444-A, the water system shall be deemed to be in violation of section 64444.

(C) If any sample would cause the running annual average to exceed the MCL, the water system is immediately in violation. If a system takes more than one sample in a quarter, the average of all the results for that quarter shall be used when calculating the running annual average. If a system fails to complete four consecutive quarters of monitoring, the running annual average shall be based on an average of the available data.

(6) If any resample, other than those taken in accordance with paragraph (5), of a water sampling site shows that the concentration of any organic chemical exceeds a MCL shown in table 64444-A, the water supplier shall proceed in accordance with paragraphs (1) and (4), or paragraph (5).

(7) If an organic chemical is detected and the concentration exceeds ten times the MCL, the water supplier shall notify the State Board within 48 hours of the receipt of the results and the contaminated site shall be resampled within 48 hours to confirm the result. The water supplier shall notify the State Board of the result of the confirmation sample(s) within 24 hours of the receipt of the confirmation result(s).

(A) If the average concentration of the original and confirmation sample(s) is less than or equal to ten times the MCL, the water supplier shall proceed in accordance with paragraph (5).

(B) If the average concentration of the original and confirmation samples exceeds ten times the MCL, use of the contaminated water source shall immediately be discontinued, if directed by the State Board. Such a water source shall not be returned to service without written approval from the State Board.

Section 64445.2. Sampling of Treated Water Sources states

(a) Each water supplier utilizing treatment to comply with any MCL for an organic chemical listed in table 64444-A shall collect monthly samples of the treated water at a site prior to the distribution system. If the treated water exceeds the MCL, the water supplier shall resample the treated water to confirm the result and report the result to the State Board within 48 hours of the confirmation.

(b) The State Board will consider requiring more frequent monitoring based on an evaluation of (1) the treatment process used, (2) the treatment effectiveness and efficiency, and (3) the concentration of the organic chemical in the water source.

Section 64463. General Public Notification Requirements states:

(a) Each public (community, nontransient-noncommunity and transient-noncommunity) water system shall give public notice to persons served by the water system pursuant to this article.

(b) Each water system required to give public notice shall submit the notice to the State Board, in English, for approval prior to distribution or posting, unless otherwise directed by the State Board.

(c) Each wholesaler shall give public notice to the owner or operator of each of its retailer systems. A retailer is responsible for providing public notice to the persons it serves. If the retailer arranges for the wholesaler to provide the notification, the retailer shall notify the State Board prior to the notice being given.

(d) Each water system that has a violation of any of the regulatory requirements specified in section 64463.1(a), 64463.4(a), or 64463.7(a) in a portion of the distribution system that is physically or hydraulically isolated from other parts of the distribution system may limit distribution of the notice to only persons served by that portion of the system that is out of compliance, if the State Board has granted written approval on the basis of a review of the water system and the data leading to the violation or occurrence for which notice is being given.

(e) Each water system shall give new customers public notice of any acute violation as specified in section 64463.1(a) that occurred within the previous thirty days, any continuing violation, the existence of a variance or exemption, and/or any other ongoing occurrence that the State Board has determined poses a potential risk of adverse effects on human health [based on a review of estimated exposures and toxicological data associated with the contaminant(s)] and requires a public notice. Notice to new customers shall be given as follows:

(1) Community water systems shall give a copy of the most recent public notice prior to or at the time service begins; and

(2) Noncommunity water systems shall post the most recent public notice in conspicuous locations for as long as the violation, variance, exemption, or other occurrence continues.

Section 64463.4 (Tier 2 Public Notice) states:

- (a) A water system shall give public notice pursuant to this section if any of the following occurs:
- (1) Any violation of the MCL, MRDL, and treatment technique requirements, except:
 - (A) Where a Tier 1 public notice is required under section 64463.1; or
 - (B) Where the State Board determines that a Tier 1 public notice is required, based on potential health impacts and persistence of the violations;
 - (2) All violations of the monitoring and testing procedure requirements in sections 64421 through 64426.1, article 3 (Primary Standards – Bacteriological Quality), for which the State Board determines that a Tier 2 rather than a Tier 3 public notice is required, based on potential health impacts and persistence of the violations;
 - (3) Other violations of the monitoring and testing procedure requirements in this chapter, and chapters 15.5, 17 and 17.5, for which the State Board determines that a Tier 2 rather than a Tier 3 public notice is required, based on potential health impacts and persistence of the violations; or
 - (4) Failure to comply with the terms and conditions of any variance or exemption in place.
- (b) A water system shall give the notice as soon as possible within 30 days after it learns of a violation or occurrence specified in subsection (a), except that the water system may request an extension of up to 60 days for providing the notice. This extension would be subject to the State Board's written approval based on the violation or occurrence having been resolved and the State Board's determination that public health and welfare would in no way be adversely affected. In addition, the water system shall:
- (1) Maintain posted notices in place for as long as the violation or occurrence continues, but in no case less than seven days;
 - (2) Repeat the notice every three months as long as the violation or occurrence continues. Subject to the State Board's written approval based on its determination that public health would in no way be adversely affected, the water system may be allowed to notice less frequently but in no case less than once per year. No allowance for reduced frequency of notice shall be given in the case of a total coliform MCL violation or violation of a Chapter 17 treatment technique requirement; and
 - (3) For turbidity violations pursuant to sections 64652.5(c)(2) and 64653(c), (d) and (f), as applicable, a water system shall consult with the State Board as soon as possible within 24 hours after the water system learns of the violation to determine whether a Tier 1 public notice is required. If consultation does not take place within 24 hours, the water system shall give Tier 1 public notice within 48 hours after learning of the violation.
- (c) A water system shall deliver the notice, in a manner designed to reach persons served, within the required time period as follows:
- (1) Unless otherwise directed by the State Board in writing based on its assessment of the violation or occurrence and the potential for adverse effects on public health and welfare, community water systems shall give public notice by:
 - (A) Mail or direct delivery to each customer receiving a bill including those that provide their drinking water to others (e.g., schools or school systems, apartment building owners, or large private employers), and other service connections to which water is delivered by the water system; and
 - (B) Use of one or more of the following methods to reach persons not likely to be reached by a mailing or direct delivery (renters, university students, nursing home patients, prison inmates, etc.):
 1. Publication in a local newspaper;
 2. Posting in conspicuous public places served by the water system, or on the Internet; or
 3. Delivery to community organizations.
 - (2) Unless otherwise directed by the State Board in writing based on its assessment of the violation or occurrence and the potential for adverse effects on public health and welfare, noncommunity water systems shall give the public notice by:
 - (A) Posting in conspicuous locations throughout the area served by the water system; and
 - (B) Using one or more of the following methods to reach persons not likely to be reached by a public posting:
 1. Publication in a local newspaper or newsletter distributed to customers;
 2. E-mail message to employees or students;
 3. Posting on the Internet or intranet; or
 4. Direct delivery to each customer.

Section 64465 (Public Notice Content and Format) states in relevant part:

- (a) Each public notice given pursuant to this article, except Tier 3 public notices for variances and exemptions pursuant to subsection (b), shall contain the following:
- (1) A description of the violation or occurrence, including the contaminant(s) of concern, and (as applicable) the contaminant level(s);
 - (2) The date(s) of the violation or occurrence;

- (3) Any potential adverse health effects from the violation or occurrence, including the appropriate standard health effects language from appendices 64465-A through G;
- (4) The population at risk, including subpopulations particularly vulnerable if exposed to the contaminant in drinking water;
- (5) Whether alternative water supplies should be used;
- (6) What actions consumers should take, including when they should seek medical help, if known;
- (7) What the water system is doing to correct the violation or occurrence;
- (8) When the water system expects to return to compliance or resolve the occurrence;
- (9) The name, business address, and phone number of the water system owner, operator, or designee of the water system as a source of additional information concerning the public notice;
- (10) A statement to encourage the public notice recipient to distribute the public notice to other persons served, using the following standard language: —Please share this information with all the other people who drink this water, especially those who may not have received this public notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this public notice in a public place or distributing copies by hand or mail; and
- (11) For a water system with a monitoring and testing procedure violation, this language shall be included: "We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During [compliance period dates], we ['did not monitor or test' or 'did not complete all monitoring or testing'] for [contaminant(s)], and therefore, cannot be sure of the quality of your drinking water during that time." ...

(c) A public water system providing notice pursuant to this article shall comply with the following multilingual-related requirements:

- (2) For a Tier 2 or Tier 3 public notice:
 - (A) The notice shall contain information in Spanish regarding the importance of the notice, or contain a telephone number or address where Spanish-speaking residents may contact the public water system to obtain a translated copy of the notice or assistance in Spanish; and
 - (B) When a non-English speaking group other than Spanish-speaking exceeds 1,000 residents or 10 percent of the residents served by the public water system, the notice shall include:
 - 1. Information in the appropriate language(s) regarding the importance of the notice; or
 - 2. A telephone number or address where such residents may contact the public water system to obtain a translated copy of the notice or assistance in the appropriate language; and
- (3) For a public water system subject to the Dymally-Alatorre Bilingual Services Act, Chapter 17.5, Division 7, of the Government Code (commencing with section 7290), meeting the requirements of this Article may not ensure compliance with the Dymally-Alatorre Bilingual Services Act.

(d) Each public notice given pursuant to this article shall:

- (1) Be displayed such that it catches people's attention when printed or posted and be formatted in such a way that the message in the public notice can be understood at the eighth-grade level;
- (2) Not contain technical language beyond an eighth-grade level or print smaller than 12 point; and
- (3) Not contain language that minimizes or contradicts the information being given in the public notice.

Appendix 64465-D. Health Effects Language - Inorganic Contaminants.

Contaminant	Health Effects Language
1,2,3-TCP	Some people who drink water containing 1,2,3-trichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.

Section 64469 (Reporting Requirements) states in relevant part:

- (d) Within 10 days of giving initial or repeat public notice pursuant to Article 18 of this Chapter, except for notice given under section 64463.7(d), each water system shall submit a certification to the State Board that it has done so, along with a representative copy of each type of public notice given.

Section 64481 (Content of the Consumer Confidence Report) states in relevant part:

- (g) For the year covered by the report, the Consumer Confidence Report shall note any violations of paragraphs (1) through (7) and give related information, including any potential adverse health effects, and the steps the system has taken to correct the violation.

- (1) Monitoring and reporting of compliance data.

APPENDIX 2. NOTIFICATION TEMPLATE

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Este informe contiene información muy importante sobre su agua potable.
Por favor hable con alguien que lo pueda traducir.

Lamont PUD Has levels of 1,2,3-TCP Above Drinking Water Standards

Our water system recently failed a drinking water standard. Although this is not an emergency, as our customers, you have a right to know what you should do, what happened, and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Testing results we received on _____ [Insert date(s) or month, year] show that our system exceeds the standard, or maximum contaminant level (MCL), for 1,2,3-trichloropropane (1,2,3-TCP). The standard for 1,2,3-TCP is 0.000005 mg/L (milligrams per liter) which is equivalent to 0.005 ug/L (micrograms per liter). The average level of 1,2,3-TCP over the last year was _____ mg/L OR _____ ug/L. Important-confirm that the correct units are reported.

What should I do?

- **You do not need to use an alternative (e.g. , bottled) water supply.**
- This is not an immediate risk. If it had been, you would have been notified immediately. However, *some people who drink water containing 1,2,3-trichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.*
- If you have other health issues concerning the consumption of this water, you may wish to consult your doctor.

What happened? What is being done?

What happened? What is being done? _____

[Describe corrective action] _____

We anticipate resolving the problem within [estimated time frame] _____.

For more information, please contact:

[Name of Contact] _____

[Phone Number] or _____

[Mailing Address] _____

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this public notice in a public place or distributing copies by hand or mail.

Secondary Notification Requirements

Upon receipt of notification from a person operating a public water system, the following notification must be given within 10 days [Health and Safety Code Section 116450(g)]:

- **SCHOOLS:** Must notify school employees, students, and parents (if the students are minors).
- **RESIDENTIAL RENTAL PROPERTY OWNERS OR MANAGERS** (including nursing homes and care facilities): Must notify tenants.
- **BUSINESS PROPERTY OWNERS, MANAGERS, OR OPERATORS:** Must notify employees of businesses located on the property.

This notice is being sent to you by Lamont PUD in compliance with the California Domestic Water Quality and Monitoring Regulations as a means of keeping the public informed.

State Water System ID: 1510012

Date distributed: _____

**APPENDIX 3
CERTIFICATION OF COMPLETION OF PUBLIC NOTIFICATION**

Compliance Order Number: 03_12_18R_021

Name of Water System: Lamont PUD

System Number: 1510012

Attach a copy of the public notice distributed to the water system's customers.

This form, when completed and sent to dwpdist12@waterboards.ca.gov for the Division of Drinking Water, Visalia District 12, 265 W. Bullard Avenue, Suite 101, Fresno, CA 93704 serves as certification that public notification to water users was completed as required by Title 22, California Code of Regulations, Sections 64463-64465.

Public notification for failure to comply with the 1,2,3-TCP MCL was conducted on:

Notification was made on _____ (date).

For the following monitoring period: **1st** **2nd** **3rd** **4th** quarter(s) of _____ (year).
(Circle appropriate quarter(s))

To summarize report delivery used and good-faith efforts taken, please check all items below that apply and fill-in where appropriate:

For Community and non-transient non-community public water systems

The notice was distributed by mail or direct delivery to each customer on: _____

One or more of the following methods were used to reach persons not likely to be reached by a mailing or direct delivery or persons served by a transient public water system (renters, nursing home patients, prison inmates, etc.):

Posted the notice at the following conspicuous locations served by the water system. (If needed, please attach a list of locations). _____

Publication of the notice in a local newspaper or newsletter of general circulation (attach a copy of the published notice, including name of newspaper and date published).

Posted the notice on the Internet at www. _____

Other method used to notify customers. _____

I hereby certify that the above information is factual.

Certified by: Printed Name _____ Title _____

Signature _____

Date _____

Disclosure: Be advised that the California Health and Safety Code, Sections 116725 and 116730 state that any person who knowingly makes any false statement on any report or document submitted for the purpose of compliance with the Safe Drinking Water Act may be liable for, respectively, a civil penalty not to exceed five thousand dollars (\$5,000) for each separate violation or, for continuing violations, for each day that violation continues, or be punished by a fine of not more than \$25,000 for each day of violation, or by imprisonment in the county jail not to exceed one year, or by both the fine and imprisonment

APPENDIX 4: QUARTERLY PROGRESS REPORT

Water System: Lamont PUD	Water System No: 1510012
Compliance Order No: 03_12_18R_021	Violation: 1,2,3-TCP MCL
Calendar Quarter:	Date:

This form should be prepared and signed by Water System personnel with appropriate authority to implement the directives of the Compliance Order and the Corrective Action Plan. Please attach additional sheets as necessary. The quarterly progress report must be submitted by the 10th day of each subsequent quarter, to the Division of Drinking Water, Visalia District 12 Office to the following email address: dwpdist12@waterboards.ca.gov titled appropriately.

Summary of Compliance Plan:

Tasks completed in the reporting quarter:

Tasks remaining to complete:

Anticipated compliance date:

Printed Name

Signature

Title

Date

APPENDIX 5 – NOTIFICATION OF RECEIPT

Compliance Order Number: 03_12_18R_021

Name of Water System: Lamont PUD

System Number: 1510012

Certification

I certify that I am an authorized representative of the Lamont PUD and that Compliance Order No. 03_12_18R_021 was received on _____. Further I certify that the Order has been reviewed by the appropriate management staff of the Lamont PUD and it is clearly understood that Compliance Order No. 03_12_18R_021 contains legally enforceable directives with specific due dates.

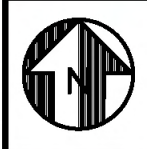
Signature of Water System Representative

Date

**THIS FORM MUST BE COMPLETED AND RETURNED TO THE STATE WATER BOARD,
DIVISION OF DRINKING WATER, NO LATER THAN June 8, 2018**

Disclosure: Be advised that the California Health and Safety Code, Sections 116725 and 116730 state that any person who knowingly makes any false statement on any report or document submitted for the purpose of compliance with the Safe Drinking Water Act may be liable for, respectively, a civil penalty not to exceed five thousand dollars (\$5,000) for each separate violation or, for continuing violations, for each day that violation continues, or be punished by a fine of not more than \$25,000 for each day of violation, or by imprisonment in the county jail not to exceed one year, or by both the fine and imprisonment.

APPENDIX C
Schematic Maps of Proposed Facilities

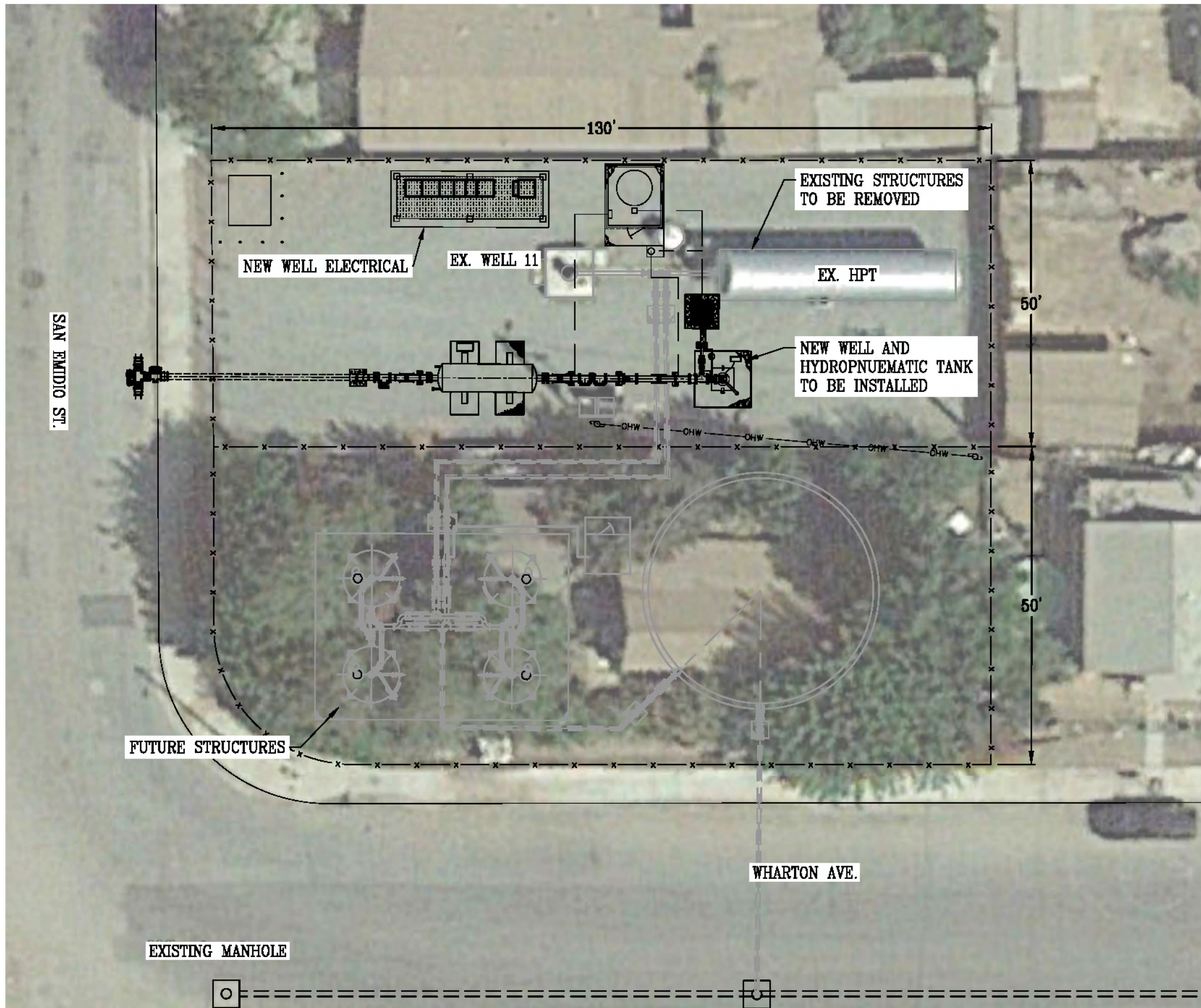


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 SCALE: 1" = 8'
 DATE: AUGUST 23, 2019

LAMONT PUBLIC UTILITY DISTRICT
 WELL NO. 5 FACILITY WELL HEAD
 TREATMENT SYSTEM

DEE JASPAR & ASSOCIATES, INC.
 CIVIL • ENGINEERS
 2730 UNICORN ROAD, BLDG A
 BAKERSFIELD, CALIFORNIA 93308
 538 N MAIN STREET, #B
 PORTERVILLE, CALIFORNIA 93257

PHONE 661 393-4796
 FAX 661 393-4799
 PHONE 559 791-9286
 FAX 559 783-9275

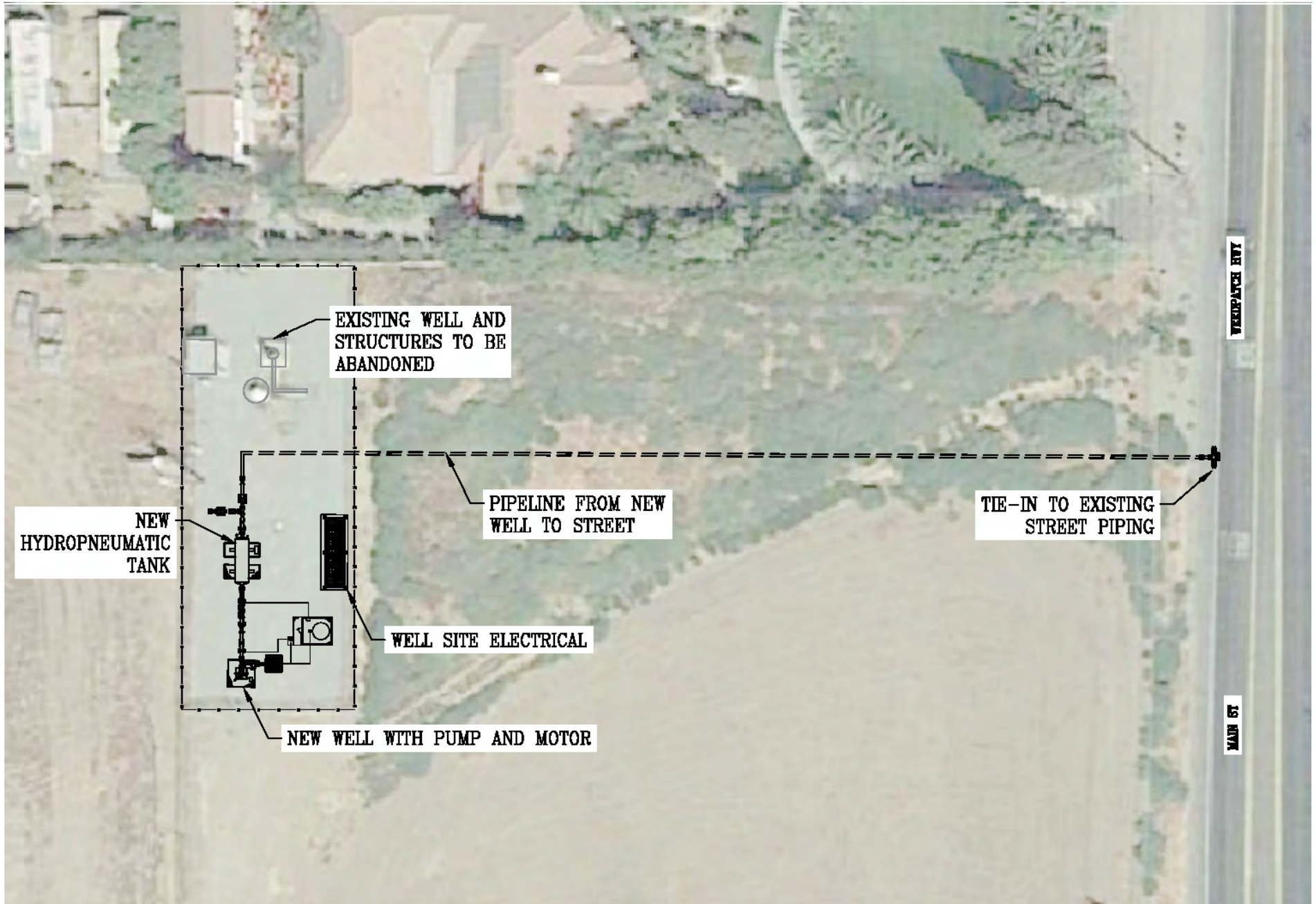


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 SCALE: 1" = 8'
 DATE: AUGUST 23, 2019

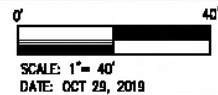
LAMONT PUBLIC UTILITY DISTRICT
 WELL NO. 11 FACILITY WELL
 REPLACEMENT

DEE JASPAR & ASSOCIATES, INC.
 CIVIL • ENGINEERS
 2730 LINCOLN ROAD, BLDG A
 BAKERSFIELD, CALIFORNIA 93308
 638 N MAIN STREET, #B
 PORTERVILLE, CALIFORNIA 93257

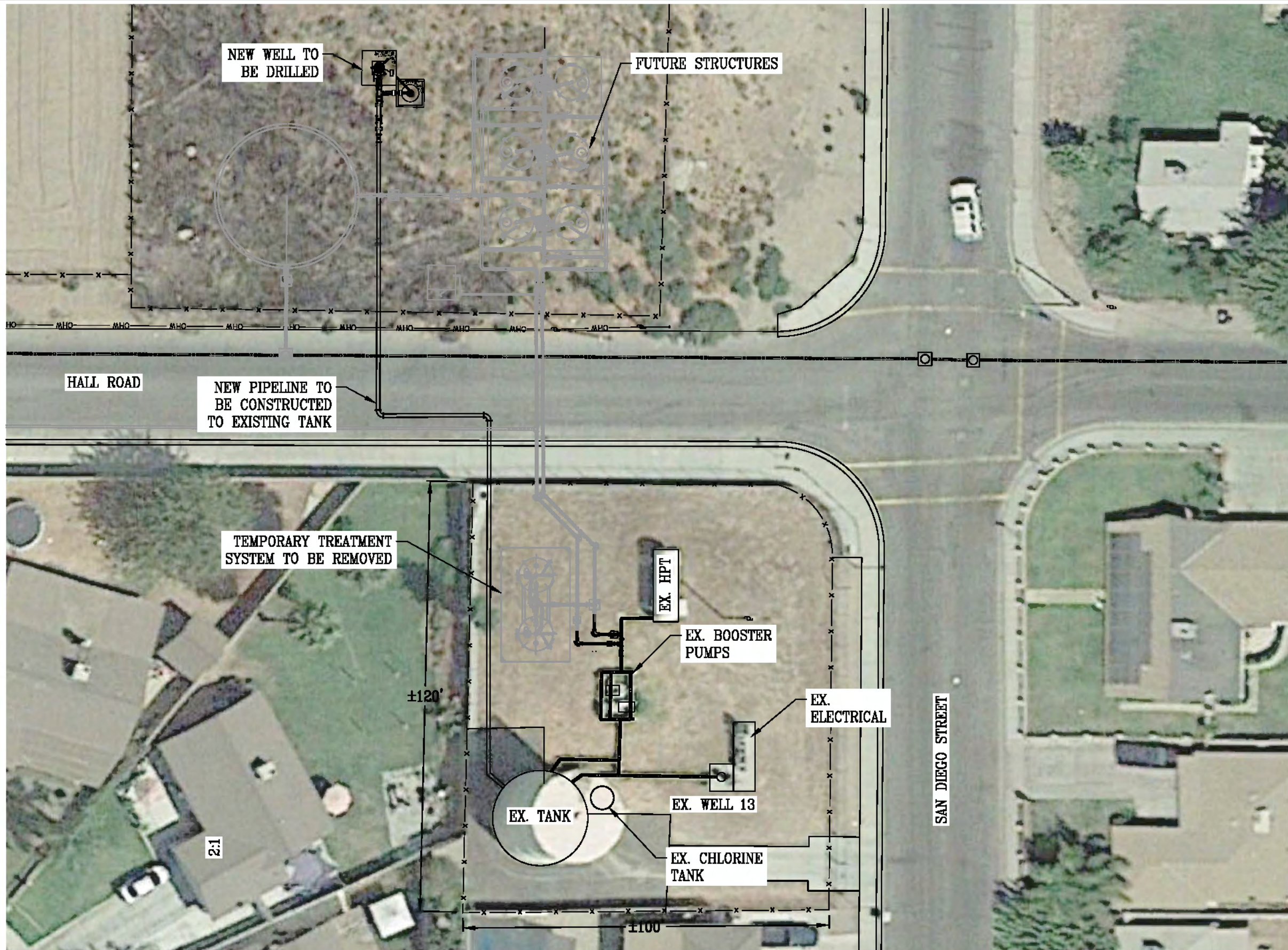
PHONE 805 383-4798
 FAX 805 383-4798
 PHONE 559 781-8298
 FAX 559 783-9276



**WELL 12 REPLACEMENT
LAMONT PUBLIC UTILITY DISTRICT**



DEE JASPAR & ASSOCIATES, INC.
 CIVIL ENGINEERS
 PORTERVILLE, CALIFORNIA
 BAKERSFIELD, CALIFORNIA
 PHONE 558 791-9288
 PHONE 801 363-4790



0' 30'
 SCALE: 1" = 30'
 DATE: SEPTEMBER 23, 2019

LAMONT PUBLIC UTILITY DISTRICT
 WELL NO. 13 FACILITY WELL
 REPLACEMENT

DEE JASPAR & ASSOCIATES, INC.
 CIVIL • ENGINEERS
 2730 UNICORN ROAD, BLDG A
 BAKERSFIELD, CALIFORNIA 93308
 838 N MAIN STREET, #8
 PORTERVILLE, CALIFORNIA 93257

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APPENDIX D
Project Cost Estimates



DEE JASPAR & ASSOCIATES, INC.

CONSULTING CIVIL ENGINEERS

2730 Unicorn Road, BLDG A
 Bakersfield, CA 93308
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Well #5 1,2,3-TCP Well Head Treatment (Series)					
Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 130,000.00	\$ 130,000.00
2	Implement Utility Locating and Site Demolition	1	LS	\$ 40,000.00	\$ 40,000.00
3	Modify Existing Well Discharge Piping	1	LS	\$ 15,000.00	\$ 15,000.00
4	Furnish & Install 10" C900 DR18 PVC Pipe from Well to Treatment System	200	LF	\$ 80.00	\$ 16,000.00
5	TCP Site Earthwork and Subgrade Preparation	1	LS	\$ 30,000.00	\$ 30,000.00
6	GAC Concrete Foundation and Anchor Bolts	1	LS	\$ 110,000.00	\$ 110,000.00
7	GAC Vessel Purchase & Installation	4	EA	\$ 190,000.00	\$ 760,000.00
8	GAC Vessel Influent Piping and Appurtenances	1	LS	\$ 120,000.00	\$ 120,000.00
9	GAC Vessel Effluent Piping and Appurtenances	1	LS	\$ 110,000.00	\$ 110,000.00
10	GAC Vessel Backwash Piping and Appurtenances	1	LS	\$ 75,000.00	\$ 75,000.00
11	Backwash Tank, Piping, and Appurtenances	1	LS	\$ 200,000.00	\$ 200,000.00
12	Backwash Drain Line to Sewer System	1	LS	\$ 100,000.00	\$ 100,000.00
13	Furnish & Install 10" C900 DR18 PVC Pipe from Treatment to Storage Tank	200	LF	\$ 80.00	\$ 16,000.00
14	Furnish & Install Backwash Connection to Distribution System	1	LS	\$ 15,000.00	\$ 15,000.00
15	Site Drain Piping and Appurtenances	1	LS	\$ 50,000.00	\$ 50,000.00
16	Site Painting	1	LS	\$ 10,000.00	\$ 10,000.00
17	Site Fencing and Drive Gates	1	LS	\$ 30,000.00	\$ 30,000.00
18	Site Ground Cover	1	LS	\$ 20,000.00	\$ 20,000.00
19	Site Electrical and Controls	1	LS	\$ 100,000.00	\$ 100,000.00
20	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
1,2,3-TCP Well Head Treatment Subtotal Cost: \$					1,957,000.00
Project Contingency: \$					195,700.00
Land Acquisition: \$					150,000.00
Labor Compliance: \$					15,000.00
Permitting and Compliance: \$					5,000.00
Construction Surveying & Staking: \$					8,000.00
Bid Advertisement & Legal: \$					5,000.00
Engineering Design: \$					52,000.00
Construction Inspection & Administration: \$					86,150.00
Total Project Estimate: \$					2,473,850.00



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CONSULTING CIVIL ENGINEERS

2730 Unicorn Road, BLDG A
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Well #11 1,2,3-TCP Well Head Treatment (Series)

Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 130,000.00	\$ 130,000.00
2	Implement Utility Locating and Site Demolition	1	LS	\$ 40,000.00	\$ 40,000.00
3	Modify Existing Well Discharge Piping	1	LS	\$ 15,000.00	\$ 15,000.00
4	Furnish & Install 10" C900 DR18 PVC Pipe from Well to Treatment System	200	LF	\$ 80.00	\$ 16,000.00
5	TCP Site Earthwork and Subgrade Preparation	1	LS	\$ 30,000.00	\$ 30,000.00
6	GAC Concrete Foundation and Anchor Bolts	1	LS	\$ 110,000.00	\$ 110,000.00
7	GAC Vessel Purchase & Installation	4	EA	\$ 190,000.00	\$ 760,000.00
8	GAC Vessel Influent Piping and Appurtenances	1	LS	\$ 120,000.00	\$ 120,000.00
9	GAC Vessel Effluent Piping and Appurtenances	1	LS	\$ 110,000.00	\$ 110,000.00
10	GAC Vessel Backwash Piping and Appurtenances	1	LS	\$ 75,000.00	\$ 75,000.00
11	Backwash Tank, Piping, and Appurtenances	1	LS	\$ 200,000.00	\$ 200,000.00
12	Backwash Drain Line to Sewer System	1	LS	\$ 100,000.00	\$ 100,000.00
13	Furnish & Install 10" C900 DR18 PVC Pipe from Treatment to Storage Tank	200	LF	\$ 80.00	\$ 16,000.00
14	Furnish & Install Backwash Connection to Distribution System	1	LS	\$ 15,000.00	\$ 15,000.00
15	Well Site Drain Piping and Appurtenances	1	LS	\$ 50,000.00	\$ 50,000.00
16	Site Painting	1	LS	\$ 10,000.00	\$ 10,000.00
17	Site Fencing and Drive Gates	1	LS	\$ 30,000.00	\$ 30,000.00
18	Site Ground Cover	1	LS	\$ 20,000.00	\$ 20,000.00
19	Site Electrical and Controls	1	LS	\$ 100,000.00	\$ 100,000.00
20	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
1,2,3-TCP Well Head Treatment Subtotal Cost: \$					1,957,000.00
Project Contingency: \$					195,700.00
Land Acquisition: \$					150,000.00
Labor Compliance: \$					15,000.00
Permitting and Compliance: \$					5,000.00
Construction Surveying & Staking: \$					8,000.00
Bid Advertisement & Legal: \$					5,000.00
Engineering Design: \$					52,000.00
Construction Inspection & Administration: \$					86,150.00
Total Project Estimate: \$					2,473,850.00



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Well #13 1,2,3-TCP Well Head Treatment (Series)					
Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 130,000.00	\$ 130,000.00
2	Implement Utility Locating and Site Demolition	1	LS	\$ 40,000.00	\$ 40,000.00
3	Modify Existing Well Discharge Piping	1	LS	\$ 15,000.00	\$ 15,000.00
4	Furnish & Install 10" C900 DR18 PVC Pipe from Well to Treatment System	200	LF	\$ 50.00	\$ 10,000.00
5	Furnish & Install Bore & Jack Cased Crossing at Hall Rd	60	LF	\$ 650.00	\$ 39,000.00
6	TCP Site Earthwork and Subgrade Preparation	1	LS	\$ 30,000.00	\$ 30,000.00
7	GAC Concrete Foundation and Anchor Bolts	1	LS	\$ 110,000.00	\$ 110,000.00
8	GAC Vessel Purchase & Installation	4	EA	\$ 190,000.00	\$ 760,000.00
9	GAC Vessel Influent Piping and Appurtenances	1	LS	\$ 120,000.00	\$ 120,000.00
10	GAC Vessel Effluent Piping and Appurtenances	1	LS	\$ 110,000.00	\$ 110,000.00
11	GAC Vessel Backwash Piping and Appurtenances	1	LS	\$ 75,000.00	\$ 75,000.00
12	Backwash Tank, Piping, and Appurtenances	1	LS	\$ 200,000.00	\$ 200,000.00
13	Backwash Drain Line to Sewer System	1	LS	\$ 100,000.00	\$ 100,000.00
14	Furnish & Install 10" C900 DR18 PVC Pipe from Treatment to Distribution System	200	LF	\$ 50.00	\$ 10,000.00
15	Furnish & Install Bore & Jack Cased Crossing at Hall Rd	60	LF	\$ 650.00	\$ 39,000.00
16	Furnish & Install Backwash Connection to Distribution System	1	LS	\$ 15,000.00	\$ 15,000.00
17	Well Site Drain Piping and Appurtenances	1	LS	\$ 50,000.00	\$ 50,000.00
18	Site Painting	1	LS	\$ 10,000.00	\$ 10,000.00
19	Site Fencing and Drive Gates	1	LS	\$ 30,000.00	\$ 30,000.00
20	Site Ground Cover	1	LS	\$ 20,000.00	\$ 20,000.00
21	Site Electrical and Controls	1	LS	\$ 100,000.00	\$ 100,000.00
22	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
1,2,3-TCP Well Head Treatment Subtotal Cost: \$					2,023,000.00
Project Contingency: \$					202,300.00
Land Acquisition: \$					150,000.00
Labor Compliance: \$					15,000.00
Permitting and Compliance: \$					5,000.00
Construction Surveying & Staking: \$					12,000.00
Bid Advertisement & Legal: \$					5,000.00
Engineering Design: \$					70,000.00
Construction Inspection & Administration: \$					86,150.00
Total Project Estimate: \$					2,568,450.00

**Lamont Public Utility District
1,2,3-TCP Treatment Project
O&M Cost Estimate (Series)**

1,2,3-TCP Treatment System Project					
Item No.	Item Description	Quantity	Unit	Unit Cost	Annualized Cost
<i>Well No. 5</i>					
1	Media Replacement - 40,000 lbs	LS	1	\$60,000.00	\$ 60,000.00
2	District Costs for Media Replacement	LS	1	\$2,000.00	\$ 2,000.00
3	Energy Cost Increase	LS	1	\$8,250.00	\$ 8,250.00
4	Flow Meter Calibration every 3 years	EA	1	\$850.00	\$ 850.00
5	Pressure Gauge Replacement every 1 yr	EA	8	\$150.00	\$ 1,200.00
6	Valve Replacement every 10 years	EA	20	\$150.00	\$ 3,000.00
7	Receptor Changeout every 3rd Changeout	LS	4	\$500.00	\$ 2,000.00
8	Additional Water Quality Testing	LS	1	\$2,500.00	\$ 2,500.00
				Subtotal:	\$ 79,800.00

1,2,3-TCP Treatment System Project					
Item No.	Item Description	Quantity	Unit	Unit Cost	Annualized Cost
<i>Well No. 11</i>					
1	Media Replacement - 40,000 lbs	LS	1	\$60,000.00	\$ 60,000.00
2	District Costs for Media Replacement	LS	1	\$2,000.00	\$ 2,000.00
3	Energy Cost Increase	LS	1	\$8,250.00	\$ 8,250.00
4	Flow Meter Calibration every 3 years	EA	1	\$850.00	\$ 850.00
5	Pressure Gauge Replacement every 1 yr	EA	8	\$150.00	\$ 1,200.00
6	Valve Replacement every 10 years	EA	20	\$150.00	\$ 3,000.00
7	Receptor Changeout every 3rd Changeout	LS	4	\$500.00	\$ 2,000.00
8	Additional Water Quality Testing	LS	1	\$2,500.00	\$ 2,500.00
				Subtotal:	\$ 79,800.00

1,2,3-TCP Treatment System Project					
Item No.	Item Description	Quantity	Unit	Unit Cost	Annualized Cost
<i>Well No. 13</i>					
1	Media Replacement - 40,000 lbs	LS	1	\$60,000.00	\$ 60,000.00
2	District Costs for Media Replacement	LS	1	\$2,000.00	\$ 2,000.00
3	Energy Cost Increase	LS	1	\$8,250.00	\$ 8,250.00
4	Flow Meter Calibration every 3 years	EA	1	\$850.00	\$ 850.00
5	Pressure Gauge Replacement every 1 yr	EA	8	\$150.00	\$ 1,200.00
6	Valve Replacement every 10 years	EA	20	\$150.00	\$ 3,000.00
7	Receptor Changeout every 3rd Changeout	LS	4	\$500.00	\$ 2,000.00
8	Additional Water Quality Testing	LS	1	\$2,500.00	\$ 2,500.00
				Subtotal:	\$ 79,800.00



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Well #11 & #13 Centralized 1,2,3-TCP Treatment

Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 130,000.00	\$ 130,000.00
2	Implement Utility Locating and Traffic Control Plan	1	LS	\$ 50,000.00	\$ 50,000.00
3	Furnish & Install 10" C900 DR18 PVC Pipe from Well #11	3,100	LF	\$ 50.00	\$ 155,000.00
4	Sawcut and Remove Existing AC Pavement	6,200	LF	\$ 3.50	\$ 21,700.00
5	Class II Aggregate Base Restoration	540	CY	\$ 130.00	\$ 70,200.00
6	Asphalt Pavement Restoration	525	TONS	\$ 75.00	\$ 39,375.00
7	Paint Striping Replacement	1	LS	\$ 10,000.00	\$ 10,000.00
8	Crossings	3	EA	\$ 10,000.00	\$ 30,000.00
9	Air Release Valves	6	EA	\$ 7,500.00	\$ 45,000.00
10	Modify Existing Well #13 Discharge Piping	1	LS	\$ 15,000.00	\$ 15,000.00
11	Furnish & Install 10" C900 DR18 PVC Pipe from Well #13	200	LF	\$ 50.00	\$ 10,000.00
12	Furnish & Install Bore & Jack Cased Crossing at Hall Rd	60	LF	\$ 650.00	\$ 39,000.00
13	TCP Site Earthwork and Subgrade Preparation	1	LS	\$ 30,000.00	\$ 30,000.00
14	GAC Concrete Foundation and Anchor Bolts	1	LS	\$ 125,000.00	\$ 125,000.00
15	GAC Vessel Purchase & Installation	6	EA	\$ 190,000.00	\$ 1,140,000.00
16	GAC Vessel Influent Piping and Appurtenances	1	LS	\$ 180,000.00	\$ 180,000.00
17	GAC Vessel Effluent Piping and Appurtenances	1	LS	\$ 175,000.00	\$ 175,000.00
18	GAC Vessel Backwash Piping and Appurtenances	1	LS	\$ 110,000.00	\$ 110,000.00
19	Backwash Tank, Piping, and Appurtenances	1	LS	\$ 200,000.00	\$ 200,000.00
20	Backwash Drain Line to Sewer System	1	LS	\$ 100,000.00	\$ 100,000.00
21	Furnish & Install 10" C900 DR18 PVC Pipe from Treatment to Well #13	200	LF	\$ 50.00	\$ 10,000.00
22	Furnish & Install Bore & Jack Cased Crossing at Hall Rd	60	LF	\$ 650.00	\$ 39,000.00
23	Furnish & Install Backwash Connection to Distribution System	1	LS	\$ 15,000.00	\$ 15,000.00
24	Well Site Drain Piping and Appurtenances	1	LS	\$ 50,000.00	\$ 50,000.00
25	Site Painting	1	LS	\$ 10,000.00	\$ 10,000.00
26	Site Fencing and Drive Gates	1	LS	\$ 30,000.00	\$ 30,000.00
27	Site Ground Cover	1	LS	\$ 20,000.00	\$ 20,000.00
28	Add Booster Pump and Piping at Well #13	1	LS	\$ 150,000.00	\$ 150,000.00
29	Site Electrical and Controls	1	LS	\$ 300,000.00	\$ 300,000.00
30	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
Centralized 1,2,3-TCP Treatment Subtotal Cost: \$					3,309,275.00
<i>Project Contingency:</i> \$					330,927.50
<i>Land Acquisition:</i> \$					150,000.00
<i>Labor Compliance:</i> \$					25,000.00
<i>Permitting and Compliance:</i> \$					5,000.00
<i>Construction Surveying & Staking:</i> \$					15,000.00
<i>Bid Advertisement & Legal:</i> \$					5,000.00
<i>Engineering Design:</i> \$					105,000.00
<i>Construction Inspection & Administration:</i> \$					142,500.00
Total Project Estimate: \$					4,087,702.50

**Lamont Public Utility District
1,2,3-TCP Treatment Project
O&M Cost Estimate (Series)**

1,2,3-TCP Centralized Treatment System Project					
Item No.	Item Description	Quantity	Unit	Unit Cost	Annualized Cost
<i>Well No. 11 and 13</i>					
1	Media Replacement - 60,000 lbs	LS	1	\$72,000.00	\$ 72,000.00
2	District Costs for Media Replacement	LS	1	\$2,000.00	\$ 2,000.00
3	Energy Cost Increase	LS	1	\$17,500.00	\$ 17,500.00
4	Flow Meter Calibration every 3 years	EA	3	\$850.00	\$ 850.00
5	Pressure Gauge Replacement every 1 yr	EA	12	\$150.00	\$ 1,800.00
6	Valve Replacement every 10 years	EA	30	\$150.00	\$ 4,500.00
7	Receptor Changeout every 3rd Changeout	LS	6	\$500.00	\$ 3,000.00
8	Additional Water Quality Testing	LS	1	\$3,500.00	\$ 3,500.00
				Subtotal:	\$ 105,150.00



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Well #12 & #19 Arsenic Treatment					
Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 200,000.00	\$ 200,000.00
2	Implement Utility Locating and Traffic Control Plan	1	LS	\$ 40,000.00	\$ 40,000.00
3	PVC Drain Line and Appurtenances, including connection to Existing Sewer Main	1	LS	\$ 105,000.00	\$ 105,000.00
4	Influent, Effluent, Backwash Waste & Backwash Supply Piping, Valves, Appurtenances, and Connections	1	LS	\$ 350,000.00	\$ 350,000.00
5	System Backwash Supply and Reclaim/Well Bypass Piping, Valves, Appurtenances, and Connections	1	LS	\$ 300,000.00	\$ 300,000.00
6	Reclaim Booster Pump Assembly, Concrete Foundations, Appurtenances, and Connections	1	LS	\$ 100,000.00	\$ 100,000.00
7	Blending Line and Appurtenances	1	LS	\$ 125,000.00	\$ 125,000.00
8	Treatment System Concrete Foundation and Anchor Bolts	1	LS	\$ 80,000.00	\$ 80,000.00
9	Skid Mounted LayneOx Water Treatment System including Piping, Valves, Appurtenances, and Connections	1	LS	\$ 1,500,000.00	\$ 1,500,000.00
10	Chlorine and Ferric Chloride FRP Storage Building including Epoxy Coated Foundation, Drain, A/C, Appurtenances, and Connections	1	LS	\$ 150,000.00	\$ 150,000.00
11	Sulfuric Acid FRP Storage Building including Epoxy Coated Foundation, A/C, Appurtenances, and Connections	1	LS	\$ 85,000.00	\$ 85,000.00
12	Double-walled 550 Gal. Sulfuric Acid Chemical Storage Tank including Duplex Chemical Feed Pumps, Containment, Appurtenances, & Connections	1	LS	\$ 30,000.00	\$ 30,000.00
13	Double-walled 550 Gal. Chlorine Storage Tank including Duplex Chemical Feed Pumps, Containment, Appurtenances, & Connections	1	LS	\$ 30,000.00	\$ 30,000.00
14	Double-walled 150 Gal. Ferric Chloride Storage Tank including Duplex Chemical Feed Pumps, Containment, Appurtenances, & Connections	1	LS	\$ 25,000.00	\$ 25,000.00
15	Concrete Ringwall Foundation, Aggregate Base, and Oiled Sand Cushion	1	LS	\$ 30,000.00	\$ 30,000.00
16	32' Diameter x 16' Tall AWWA D103 Bolted Steel Storage Tank, Appurtenances, and Connections	1	LS	\$ 150,000.00	\$ 150,000.00
17	Well Site Drain Piping and Appurtenances	1	LS	\$ 50,000.00	\$ 50,000.00
18	Site Painting	1	LS	\$ 30,000.00	\$ 30,000.00
19	Site Ground Cover	1	LS	\$ 40,000.00	\$ 40,000.00
20	Site Electrical and Controls	1	LS	\$ 350,000.00	\$ 350,000.00
21	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
Centralized Arsenic Treatment Subtotal Cost: \$					3,780,000.00
Project Contingency: \$					378,000.00
Land Acquisition: \$					-
Pilot Testing: \$					100,000.00
Labor Compliance: \$					30,000.00
Permitting and Compliance: \$					5,000.00
Construction Surveying & Staking: \$					15,000.00
Bid Advertisement & Legal: \$					5,000.00
Engineering Design: \$					105,000.00
Construction Inspection & Administration: \$					165,000.00
Total Project Estimate: \$					4,583,000.00

**Lamont Public Utility District
Arsenic Treatment Project
O&M Cost Estimate**

Arsenic Treatment System Project					
Item No.	Item Description	Quantity	Unit	Unit Cost	Annualized Cost
<i>Well No. 12 and 19</i>					
1	Media Replacement every 10 years	LS	1	\$10,000.00	\$ 10,000.00
2	District Costs for Media Replacement	LS	1	\$2,000.00	\$ 2,000.00
3	Energy Cost Increase due to Filters	LS	1	\$10,360.00	\$ 10,360.00
4	Energy Cost for Backwashing	LS	1	\$8,000.00	\$ 8,000.00
5	pH Adjustment	LS	1	\$30,000.00	\$ 30,000.00
6	Ferric Chloride Dosing	LS	1	\$5,000.00	\$ 5,000.00
7	Chlorine Dosing	LS	1	\$30,000.00	\$ 30,000.00
8	Backwash Waste Sludge Disposal	LS	1	\$25,000.00	\$ 25,000.00
9	Flow Meter Calibration every 3 years	EA	6	\$850.00	\$ 850.00
10	Pressure Gauge Replacement every 1 yr	EA	12	\$150.00	\$ 1,800.00
11	Valve Replacement every 10 years	EA	24	\$150.00	\$ 3,600.00
12	Analyzer Maintenance	LS	1	\$3,500.00	\$ 3,500.00
13	Additional Water Quality Testing	LS	1	\$5,000.00	\$ 5,000.00
				Subtotal:	\$ 135,110.00



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Well Replacement Well					
<i>Item</i>	<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Unit Price</i>	<i>Amount</i>
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 130,000.00	\$ 130,000.00
2	36" Conductor Casing	50	LF	\$ 950.00	\$ 47,500.00
3	18" dia. Pilot Hole Construction	900	LF	\$ 90.00	\$ 81,000.00
4	Formation Sampling	6	EA	\$ 17,500.00	\$ 105,000.00
5	Ream Pilot 34" & 28" Hole	900	LF	\$ 90.00	\$ 81,000.00
6	16" I.D. x 5/16" HSLA Blank Casing	420	LF	\$ 205.00	\$ 86,100.00
7	16" I.D. x 5/16" HSLA Perforated Casing	460	LF	\$ 295.00	\$ 135,700.00
8	20' Compression Section	1	LS	\$ 10,400.00	\$ 10,400.00
9	4" Gravel Feed Tube	450	LF	\$ 15.00	\$ 6,750.00
10	3" Sounding Tube	465	LF	\$ 14.00	\$ 6,510.00
11	Gravel Envelope (8x16 Colorado Silica Sand)	440	LF	\$ 80.00	\$ 35,200.00
12	Cement Seal	440	LF	\$ 102.00	\$ 44,880.00
13	Swabbing & Air Lifting	80	HRS	\$ 375.00	\$ 30,000.00
14	Pumping & Surging	72	HRS	\$ 350.00	\$ 25,200.00
15	Production Testing	24	HRS	\$ 350.00	\$ 8,400.00
16	Well Video	1	LS	\$ 2,680.00	\$ 2,680.00
17	Well Site Earthwork and Paved Drive Approach	1	LS	\$ 171,330.00	\$ 171,330.00
18	Well Site Drain Piping and Appurtenances	1	LS	\$ 70,960.00	\$ 70,960.00
19	Concrete Pump Foundation for Deep Well	1	EA	\$ 12,100.00	\$ 12,100.00
20	Vertical Hollow Shaft Electric Motor	1	EA	\$ 50,000.00	\$ 50,000.00
21	Deep Well Vertical Turbine Pump Assembly	1	EA	\$ 120,000.00	\$ 120,000.00
22	Pump Discharge Piping and Appurtenances	1	LS	\$ 180,000.00	\$ 180,000.00
23	Hydropneumatic Tank and Concrete Footings	1	LS	\$ 90,000.00	\$ 90,000.00
24	PVC Conveyance Piping and Appurtenances from Well Site to LPUD Distribution System	1,300	LF	\$ 150.00	\$ 195,000.00
25	Liquid Chlorine Injection System including Building and	1	LS	\$ 89,550.00	\$ 89,550.00
26	Electrical Shade Structure and Concrete Foundation	1	LS	\$ 35,000.00	\$ 35,000.00
27	Well Site Ground Cover	1	LS	\$ 38,950.00	\$ 38,950.00
28	Painting System	1	LS	\$ 10,000.00	\$ 10,000.00
29	Chain Link Fencing with Drive and Personnel Gates	800	LF	\$ 50.00	\$ 40,000.00
30	Well Site Electrical and Controls	1	LS	\$ 350,000.00	\$ 350,000.00
31	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
Well Replacement Subtotal Cost: \$					2,299,210.00
<i>Project Contingency:</i> \$					229,921.00
<i>Casing Hammer Test Well:</i> \$					205,000.00
<i>Land Acquisition:</i> \$					100,000.00
<i>Labor Compliance:</i> \$					15,000.00
<i>Permitting and Compliance:</i> \$					5,000.00
<i>Construction Surveying & Staking:</i> \$					15,000.00
<i>Bid Advertisement & Legal:</i> \$					10,000.00
<i>Engineering Design:</i> \$					60,000.00
<i>Construction Inspection & Administration:</i> \$					125,000.00
Total Project Estimate: \$					3,064,131.00



DEE JASPAR & ASSOCIATES, INC.

CONSULTING CIVIL ENGINEERS

2730 Unicorn Road, BLDG A
 Bakersfield, CA 93308
 PHONE (661) 393-4796
 FAX (661) 393-4799

EI Adobe Property Owner's Association (EAPOA) Consolidation

<i>Item</i>	<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Unit Price</i>		<i>Amount</i>
1	Mobilization, Demobilization, and Clean Up	1	LS	\$	150,000.00	\$ 150,000.00
2	Implement Utility Locating and Traffic Control Plan	1	LS	\$	50,000.00	\$ 50,000.00
3	Furnish & Install 10" C900 DR18 PVC Pipe Transmission Main	10,300	LF	\$	65.00	\$ 669,500.00
4	Sawcut and Remove Existing AC Pavement	6,200	LF	\$	3.50	\$ 21,700.00
5	Class II Aggregate Base Restoration	540	CY	\$	130.00	\$ 70,200.00
6	Asphalt Pavement Restoration	525	TONS	\$	75.00	\$ 39,375.00
7	Paint Striping Replacement	1	LS	\$	10,000.00	\$ 10,000.00
8	Road Crossings	3	EA	\$	50,000.00	\$ 150,000.00
9	Air Release Valves	6	EA	\$	7,500.00	\$ 45,000.00
10	Furnish & Install 10" Gate Valves	8	EA	\$	2,500.00	\$ 20,000.00
11	Furnish & Install 4" C900 DR18 PVC Pipe	500	LF	\$	50.00	\$ 25,000.00
12	Furnish & Install 6" C900 DR18 PVC Pipe	1,000	LF	\$	60.00	\$ 60,000.00
13	Furnish & Install 8" C900 DR18 PVC Pipe	13,200	LF	\$	70.00	\$ 924,000.00
14	Furnish & Install 10" C900 DR18 PVC Pipe	1,000	LF	\$	80.00	\$ 80,000.00
15	Furnish & Install 4" Gate Valves	2	EA	\$	400.00	\$ 800.00
16	Furnish & Install 6" Gate Valves	1	EA	\$	800.00	\$ 800.00
17	Furnish & Install 8" Gate Valves	25	EA	\$	1,500.00	\$ 37,500.00
18	Furnish & Install 10" Gate Valves	3	EA	\$	2,500.00	\$ 7,500.00
19	Furnish & Install Fire Hydrant Assemblies	24	EA	\$	6,000.00	\$ 144,000.00
20	Furnish & Install 1" Service Connection	81	EA	\$	950.00	\$ 76,950.00
21	Demolish Existing 25,000 and 44,000 Gallon Tanks	1	LS	\$	25,000.00	\$ 25,000.00
22	Abandon Existing Water Distribution System Piping	1	LS	\$	25,000.00	\$ 25,000.00
23	Abandon Existing Well Site #1 and #2	1	LS	\$	55,000.00	\$ 55,000.00
24	Acceptance and Testing	1	LS	\$	10,000.00	\$ 10,000.00

EAPOA Consolidation Subtotal Cost: \$ 2,697,325.00

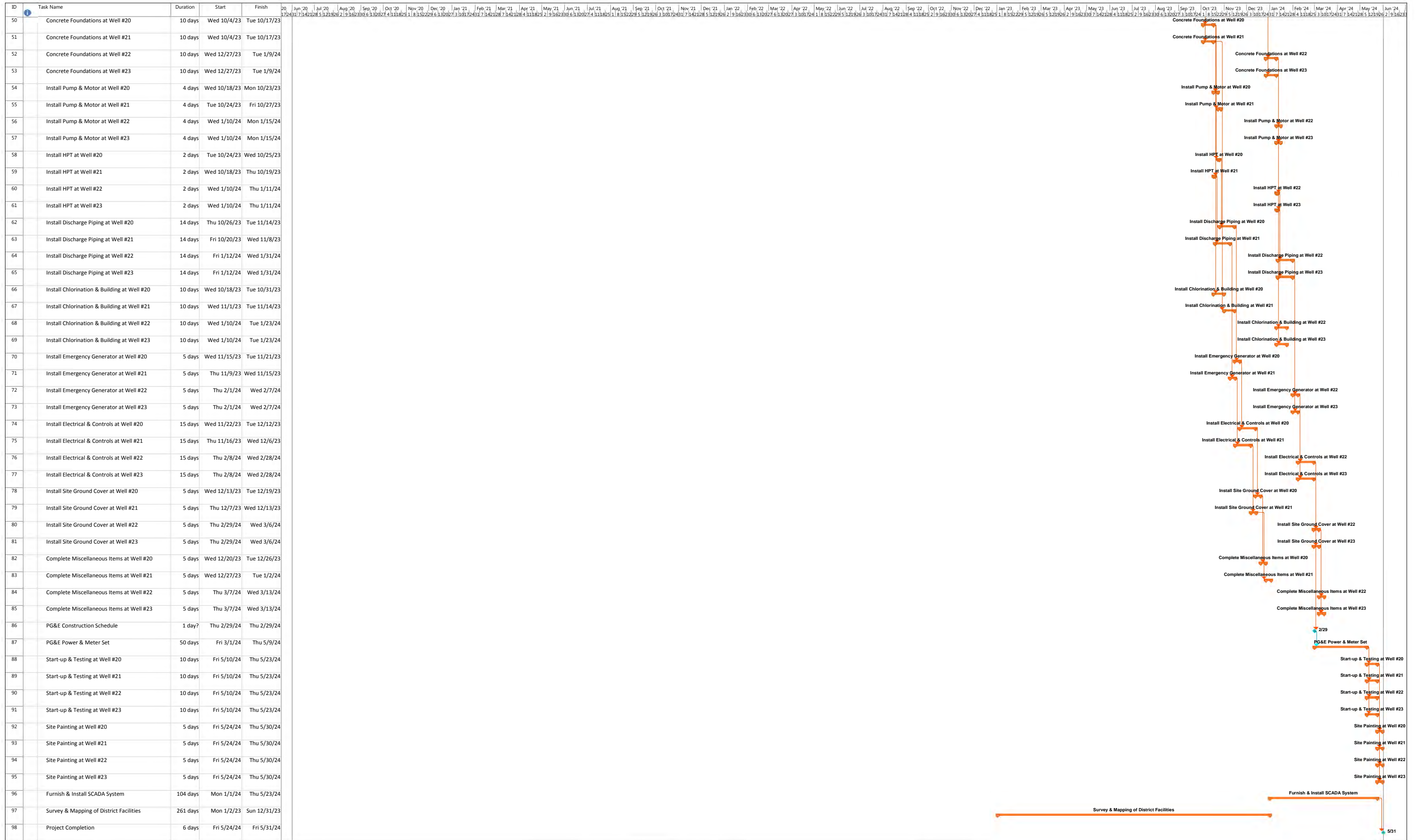
<i>Project Contingency:</i>	\$	269,732.50
<i>Land Acquisition:</i>	\$	-
<i>Labor Compliance:</i>	\$	25,000.00
<i>Permitting and Compliance:</i>	\$	10,000.00
<i>Construction Surveying & Staking:</i>	\$	20,000.00
<i>Bid Advertisement & Legal:</i>	\$	5,000.00
<i>Engineering Design:</i>	\$	105,000.00
<i>Construction Inspection & Administration:</i>	\$	142,500.00
<i>Total Project Estimate:</i>	\$	3,274,557.50



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Selected Project Cost Estimate					
Item	Item Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Demobilization, and Clean Up	1	LS	\$ 130,000.00	\$ 130,000.00
2	36" Conductor Casing	50	LF	\$ 950.00	\$ 47,500.00
3	18" dia. Pilot Hole Construction	900	LF	\$ 90.00	\$ 81,000.00
4	Formation Sampling	6	EA	\$ 17,500.00	\$ 105,000.00
5	Ream Pilot 34" & 28" Hole	900	LF	\$ 90.00	\$ 81,000.00
6	16" I.D. x 5/16" HSLA Blank Casing	420	LF	\$ 205.00	\$ 86,100.00
7	16" I.D. x 5/16" HSLA Perforated Casing	460	LF	\$ 295.00	\$ 135,700.00
8	20' Compression Section	1	LS	\$ 10,400.00	\$ 10,400.00
9	4" Gravel Feed Tube	450	LF	\$ 15.00	\$ 6,750.00
10	3" Sounding Tube	465	LF	\$ 14.00	\$ 6,510.00
11	Gravel Envelope (8x16 Colorado Silica Sand)	440	LF	\$ 80.00	\$ 35,200.00
12	Cement Seal	440	LF	\$ 102.00	\$ 44,880.00
13	Swabbing & Air Lifting	80	HRS	\$ 375.00	\$ 30,000.00
14	Pumping & Surging	72	HRS	\$ 350.00	\$ 25,200.00
15	Production Testing	24	HRS	\$ 350.00	\$ 8,400.00
16	Well Video	1	LS	\$ 2,680.00	\$ 2,680.00
17	Well Site Earthwork and Paved Drive Approach	1	LS	\$ 171,330.00	\$ 171,330.00
18	Well Site Drain Piping and Appurtenances	1	LS	\$ 70,960.00	\$ 70,960.00
19	Concrete Pump Foundation for Deep Well	1	EA	\$ 12,100.00	\$ 12,100.00
20	Vertical Hollow Shaft Electric Motor	1	EA	\$ 50,000.00	\$ 50,000.00
21	Deep Well Vertical Turbine Pump Assembly	1	EA	\$ 120,000.00	\$ 120,000.00
22	Pump Discharge Piping and Appurtenances	1	LS	\$ 180,000.00	\$ 180,000.00
23	Hydropneumatic Tank and Concrete Footings	1	LS	\$ 90,000.00	\$ 90,000.00
24	PVC Conveyance Piping and Appurtenances from Well Site to LPUD Distribution System	1,300	LF	\$ 150.00	\$ 195,000.00
25	Liquid Chlorine Injection System including Building and	1	LS	\$ 89,550.00	\$ 89,550.00
26	Electrical Shade Structure and Concrete Foundation	1	LS	\$ 35,000.00	\$ 35,000.00
27	Well Site Ground Cover	1	LS	\$ 38,950.00	\$ 38,950.00
28	Painting System	1	LS	\$ 10,000.00	\$ 10,000.00
29	Chain Link Fencing with Drive and Personnel Gates	800	LF	\$ 50.00	\$ 40,000.00
30	Well Site Electrical and Controls	1	LS	\$ 350,000.00	\$ 350,000.00
31	Start-Up and Performance Testing	1	LS	\$ 10,000.00	\$ 10,000.00
Well Replacement Subtotal Cost:					\$ 2,299,210.00
Project Contingency:					\$ 229,921.00
Casing Hammer Test Well:					\$ 205,000.00
Land Acquisition:					\$ 100,000.00
Labor Compliance:					\$ 15,000.00
Permitting and Compliance:					\$ 5,000.00
Construction Surveying & Staking:					\$ 15,000.00
Bid Advertisement & Legal:					\$ 10,000.00
Engineering Design:					\$ 60,000.00
Construction Inspection & Administration:					\$ 125,000.00
Total Estimate Per Well:					\$ 3,064,131.00
Total Estimate for Four Wells:					\$ 12,256,524.00
El Adobe Consolidation Project:					\$ 3,703,857.50
District Improvements:					\$ 550,000.00
Total Project Estimate w/o Treatment:					\$ 16,510,381.50
Total Project Estimate w/ Treatment:					\$ 24,355,674.00

APPENDIX E
Proposed Project Schedule



APPENDIX F
Supplemental Information Form

State Water Resources Control Board
Division of Financial Assistance
Drinking Water State Revolving Fund

**SUPPLEMENTAL INFORMATION FORM
CONSOLIDATION PROJECTS**

Excluding the applicant, one supplemental information form must be filled out for each public water system (PWS) involved in the consolidation project. The following information must be returned with the completed DWSRF application. Please refer to the Guidelines for Consolidation Projects for additional information on the roles and responsibilities of each PWS.

PWS Information:

PWS Name: Lamont Public Utility District
PWS Number: 1590006
Physical Address: 8624 Segrue Road
Lamont, CA 93241
Mailing Address: 8624 Segrue Road
Lamont, CA 93241

Primary Contact Information:

Contact Name: Scott Taylor, General Manager
Phone Number: (661) 845-1213
Email Address: staylor@LPUD.org

This PWS is involved in the consolidation project as a:

- Restructured water system (will remain a PWS after the consolidation)
 Consolidating water system (will cease to operate as a PWS)

Problem Description

Attach documentation of problem (e.g., water quality testing results from a certified lab).

This PWS is classified as a:

- Community Water System
 Non-transient, Non-community Water System
 Transient, Non-community Water System
 Not currently classified as a water system

This PWS has the following ownership type(s) (check all that apply):

- | | |
|--|--|
| <input checked="" type="checkbox"/> Public | <input type="checkbox"/> Private |
| <input type="checkbox"/> Municipality | <input type="checkbox"/> Corporation (includes Nonprofit Mutual Water Company) |
| <input type="checkbox"/> County Agency | (Federal Tax ID No. _____) |
| <input checked="" type="checkbox"/> Special District | <input type="checkbox"/> Partnership |
| <input type="checkbox"/> State Agency | <input type="checkbox"/> Limited Partnership |
| <input type="checkbox"/> Irrigation District | <input type="checkbox"/> General Partnership |
| | <input type="checkbox"/> Limited Liability Company |
| | <input type="checkbox"/> Revocable Family Trust |
| | <input type="checkbox"/> Sole Proprietorship |

Other (please describe): _____

Applicant is in contact with this PWS regarding the consolidation project.

- Yes No

Applicant has contacted the Division to inform them of this PWS's participation in the consolidation project.

- Yes No

If this is a planning project, the following must be attached to this information form:

- Documentation showing the PWS's commitment to the consolidation planning project, and authorization for Applicant to act on behalf of the PWS with respect to the planning project
- Documentation supporting the PWS's ownership type identified above
- A map delineating the PWS's service area boundaries and its physical proximity to the service areas of Applicant and other PWS's participating in this project
- For a publicly owned water system, please submit its three most recent years of audited financial statements. For a privately owned water system, please submit its last three years of federal income tax returns (all schedules). For either, please submit debt documents of the system.

If this is a construction project, the following must be attached to this information form

- Documentation showing the PWS's commitment to the consolidation construction project and authorization for Applicant to act on behalf of the PWS with respect to the project

- Draft Consolidation and Water Service Agreement(s) identifying the terms of consolidation and water service
- Documentation supporting the PWS's ownership type identified above
- For a publicly owned water system, please submit its three most recent years of audited financial statements. For a privately owned water system, please submit its last three years of federal income tax returns (all schedules). For either, please submit debt documents of the system.
- A map delineating the PWS's service area boundaries and its physical proximity to the service areas of Applicant and other PWSs participating in this project

CERTIFICATION

I hereby certify that I am the Applicant's authorized representative and that the information provided on this Supplemental Information Form is accurate to the best of my knowledge.

11-29-19
Date

Carl M. Skaggs
Authorized Representative's Signature

Carl M. Skaggs
Authorized Representative's Name

District Engineer
Authorized Representative's Title

APPENDIX G
Permit List

PROJECT PERMITS

- 1. Well Drilling Permits**
- 2. Well Abandonment Permits**
- 3. County Encroachment Permit**
- 4. Air Quality Pollution Control District Dust Control Permit**
- 5. Air Quality Pollution Control District Authority to Construct & Operate Permits for Generators**
- 6. Storm Water Pollution Prevention Plan (SWPPP)**

APPENDIX 3

AIR QUALITY and GHG IMPACT ANALYSES

SHE-476

**LAMONT PUBLIC UTILITIES DISTRICT WATER SUPPLY IMPROVEMENT
PROJECT**

LAMONT, CALIFORNIA

Prepared for:

Tom Dodson & Associates
Attn: Tom Dodson
PO Box 2307
San Bernardino, CA 92406-2307

Date:

December 7, 2021

Project No.: P21-038 AQ

SETTING AND METEOROLOGY

San Joaquin Valley Air Basin (SJVAB) includes San Joaquin County, Stanislaus County, Madera County, Fresno County, Kings County, Tulare County, and a portion of Kern County. Lamont is at the southern end of the San Joaquin Valley Air Pollution Control District (SJVAPCD) in South Kern County and is located 9 miles south-southeast of downtown Bakersfield. Lamont is a small, rural community. The community is located at the base of the Tehachapi Mountain range. The mountains surrounding the SJVAB restrict air movement through and out of the basin, and as a result, impede the dispersion of pollutants from the basin.

Lamont is primarily an agricultural community. In addition to being itself a farm community it is surrounded on all sides by agricultural lands where operational pesticide use greatly impacts the city's air quality. Lamont is also directly downwind from one of the largest oil and gas refineries in Kern County. These factors contribute to the City of Lamont and its residents, experiencing some of the worst PM-2.5 levels in the nation. There is no government agency-sponsored monitor in Lamont for PM-2.5. The closest PM-2.5 monitor is in southwest Bakersfield.

Away from the cooling effects of the Pacific Ocean, the climate of Kern County can be characterized as hot in summer and cold in winter, compared with the coastal basins where the climate is moderated by the adjacent ocean. The SVJAB has an "inland Mediterranean" climate averaging over 260 sunny days per year. The valley floor is characterized by hot summers and mild humid winters. Summer high temperatures often exceed 100°F while the average daily low temperature in the winter is 45°F. Temperatures below freezing are rare. Summer winds in the SJVAB usually originate at the north end of the San Joaquin Valley and flow in a south-southeasterly direction while winter winds originate from the south and flow in a north-northwesterly direction. Winds in the winter months tend to be variable and light; often less than 10 mph. Precipitation in the San Joaquin Valley is strongly influenced by the position of the semi-permanent subtropical high-pressure zone located off the Pacific Coast. Most precipitation occurs in the winter months, with some occurring in late summer and fall. Average annual rainfall for the entire San Joaquin Valley is 9.25 inches on the valley floor.

ASSEMBLY BILL 617

Assembly Bill 617 (AB 617) was signed into law in 2017 by then-Gov. Jerry Brown and was meant to involve community members in developing new, innovative actions that go beyond existing state and regional regulations and programs to reduce air pollution in disproportionately burdened communities. AB 617 requires the California Air Resources Board (CARB) and air districts to develop and implement additional emissions reporting, monitoring, reduction plans and measures in an effort to reduce air pollution exposure in identified communities. The program also calls for a committee of local community members to be assembled to come up with ways to reduce the identified pollution using grant funding provided by the state. The committee is to be comprised of residents, business owners, environmental justice advocates, local government officials and air regulators.

Since 20 of the 30 most disadvantaged communities in California are in the San Joaquin Valley, this process is expected to bring additional clean air resources and strategies to many Valley communities.

Lamont and nearby Arvin were recently identified as being located in a geographic area that is "a trap for air pollution." An environmental analysis found that Arvin and Lamont have a higher pollution burden than 95 percent of the state's 8,000 census tracts.

The sources of pollution are both regional and local. Pollution from larger cities like Bakersfield and Fresno and even as far away as Sacramento are known to contribute to sink down through the valley and collect in Arvin and Lamont. But the communities also have 38 stationary sources of emissions that contribute to pollution, including pesticides, agriculture operations and oil and gas activity. The AB 617 program will hopefully bring more resources to the Valley Air District's longstanding efforts to develop and implement regulatory and incentive-based clean air strategies throughout the San Joaquin Valley.

AIR QUALITY SETTING

AMBIENT AIR QUALITY STANDARDS (AAQS)

National AAQS were established in 1971 for six pollution species with states retaining the option to add other pollutants, require more stringent compliance, or to include different exposure periods. The initial attainment deadline of 1977 was extended several times in air quality problem areas like Southern California. In 2003, the Environmental Protection Agency (EPA) adopted a rule, which extended and established a new attainment deadline for ozone for the year 2021. Because the State of California had established AAQS several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table 1. Sources and health effects of various pollutants are shown in Table 2.

The Federal Clean Air Act Amendments (CAAA) of 1990 required that the U.S. Environmental Protection Agency (EPA) review all national AAQS in light of currently known health effects. EPA was charged with modifying existing standards or promulgating new ones where appropriate. EPA subsequently developed standards for chronic ozone exposure (8+ hours per day) and for very small diameter particulate matter (called "PM-2.5"). New national AAQS were adopted in 1997 for these pollutants.

Planning and enforcement of the federal standards for PM-2.5 and for ozone (8-hour) were challenged by trucking and manufacturing organizations. In a unanimous decision, the U.S. Supreme Court ruled that EPA did not require specific congressional authorization to adopt national clean air standards. The Court also ruled that health-based standards did not require preparation of a cost-benefit analysis. The Court did find, however, that there was some inconsistency between existing and "new" standards in their required attainment schedules. Such attainment-planning schedule inconsistencies centered mainly on the 8-hour ozone standard. EPA subsequently agreed to downgrade the attainment designation for a large number of communities to "non-attainment" for the 8-hour ozone standard.

In response to continuing evidence that ozone exposure at levels just meeting federal clean air standards is demonstrably unhealthful, EPA had proposed a further strengthening of the 8-hour standard. A new 8-hour ozone standard was adopted in 2015 after extensive analysis and public input. The adopted national 8-hour ozone standard is 0.07 ppm which matches the current California standard. It will require three years of ambient data collection, then 2 years of non-attainment findings and planning protocol adoption, then several years of plan development and approval. Final air quality plans for the new standard are likely to be adopted around 2022.

Table 1

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM ₁₀) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		
Fine Particulate Matter (PM _{2.5}) ⁹	24 Hour	—	—	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—	—	
Nitrogen Dioxide (NO ₂) ¹⁰	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO ₂) ¹¹	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ¹¹	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) ¹¹	—	
Lead ^{12,13}	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m ³ (for certain areas) ¹²	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m ³		
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARE-PIO at (916) 322-2990

California Air Resources Board (5/4/16)

Table 1 (continued)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
 Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ($1.5 \mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (5/4/16)

Table 2
Health Effects of Major Criteria Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> • Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Respirable Particulate Matter (PM-10)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> • Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics. 	<ul style="list-style-type: none"> • Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

BASELINE AIR MONITORING

The San Joaquin Valley Air Pollution Control District (SJVAPCD) operates a regional monitoring network that measures the ambient concentration of criteria pollutants. Only ozone has a monitoring station near Lamont (in Arvin at 19405 Buena Vista Boulevard). Currently, particulate data is only available in Bakersfield. Table 3 summarizes the monitoring history from the Bakersfield and Arvin monitoring stations for the last three years. From these data one can infer that baseline air quality levels for particulates near the project site are occasionally unhealthy. As part of AB 617 a more local particulate monitoring station for Lamont and Arvin will be installed which will more accurately provide local particulate data.

- a. Photochemical smog (ozone) levels occasionally exceed standards. The 8-hour state ozone standard has been exceeded an average of 16 percent of all days in the past three years near the project site and the 8-hour federal was violated 8 percent during the same period. The 1-hour state standard has been violated less than 4 percent of all days in the last three years.
- b. Respirable dust (PM-10) levels frequently exceed the state standard. Of all measurement days, on average 17 days have shown exceedances of the state standard, the less stringent federal PM-10 standard was only violated once for the same time period. The 17 measurement days correlate to 108 estimated days for 2019.
- c. The federal ultra-fine particulate (PM-2.5) standard of $35 \mu\text{g}/\text{m}^3$ is also occasionally exceeded in Bakersfield. From available data 10 days in 2019 and 51 days in 2020 have exceeded the $35 \mu\text{g}/\text{m}^3$ standard.

Plans are in place to focus on particulates which would provide an improvement trend within the reasonably near future.

Table 3
Air Quality Monitoring Summary (2018-2020)
(Measured Number of Days Standards Were Exceeded)

Pollutant/Standard	2018	2019	2020
Ozone			
1-Hour > 0.09 ppm (S)	15	3	22
8-Hour > 0.07 ppm (S)	65	37	70
8- Hour > 0.075 ppm (F)	34	14	38
Max. 1-Hour Conc. (ppm)	0.113	0.108	0.133
Max. 8-Hour Conc. (ppm)	0.100	0.086	0.104
Nitrogen Dioxide			
1-Hour > 0.18 ppm (S)	0	0	0
Max. 1-Hour Conc. (ppm)	0.057	0.064	0.065
Respirable Particulates (PM-10)			
24-Hour > 50 µg/m ³ (S) measured	13	17	18
24-Hour > 150 µg/m ³ (F) measured	0	0	1
Max. 24-Hr. Conc. (µg/m ³)	136.	116.	193.
Fine Particulates (PM-2.5)			
24-Hour > 35 µg/m ³ (F) measured	9	3	17
Max. 24-Hr. Conc. (µg/m ³)	100.9	83.7	158.6

S=State Standard

F=Federal Standard

Ozone: Arvin-Di Giorgio at 19405 Buena Vista Blvd

Nitrogen Dioxide: Bakersfield Municipal Airport

PM-10: Bakersfield-5558 California Avenue

PM-2.5: Bakersfield-410 E Planz Road

AIR QUALITY PLANNING

Fugitive dust emissions generated by construction activities are regulated by the SJVAPCD. Construction activities must comply with all applicable SJVAPCD rules and regulations, including SJVAPCD's Regulation VIII. Regulation VIII consists of several individual rules that require implementation of best available mitigation measures to limit construction dust emissions.

The San Joaquin Valley Air Basin has been determined by ARB and EPA to be in attainment of federal PM-10 standards. Regulation VIII has been accepted by ARB and EPA to maintain attainment of PM-10 standards in the Air Basin. In developing the 2007 Maintenance Plan, the SJVAPCD evaluated the potential PM-10 emissions that could occur under all sources within the Air Basin and developed rules and procedures to reduce future emissions sufficiently to maintain the existing attainment status. The basin is non-attainment for PM-2.5 and ozone. The full attainment status is shown in Table 4.

Table 4
San Joaquin Valley Air Basin Attainment Status¹

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone – 1 Hour	Nonattainment/Extreme	Nonattainment/Severe
Ozone – 8 Hour	Nonattainment/Extreme	Nonattainment
PM-10*	Attainment	Nonattainment
PM 2.5	Nonattainment	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead Particulates	No Designation	Attainment

*On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.

¹ <https://www.valleyair.org/aqinfo/attainment.htm>

AIR QUALITY IMPACT

STANDARDS OF SIGNIFICANCE

Air quality impacts are considered “significant” if they cause clean air standards to be violated where they are currently met, or if they “substantially” contribute to an existing violation of standards. Any substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact.

Appendix G of the California CEQA Guidelines offers the following four tests of air quality impact significance. A project would have a potentially significant impact if it:

- a. Conflicts with or obstructs implementation of the applicable air quality plan.
- b. Results in a cumulatively considerable net increase of any criteria pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- c. Exposes sensitive receptors to substantial pollutant concentrations.
- d. Creates objectionable odors affecting a substantial number of people.

The San Joaquin Valley Air Pollution Control District developed a CEQA Implementation Document that assigns an emissions level that it recommends should be considered as creating a potentially significant air quality impact. Construction projects are considered to have an air quality impact if they cause the following annual emissions to be exceeded (tons/year):

CO	-	100
NO _x	-	10
ROG	-	10
SO _x	-	27
PM-10	-	15
PM-2.5	-	15

The project is not expected to generate any operational air quality emissions.

Significance could also derive from emissions of odors or hazardous air pollutants. There are no odors associated with the drilling of wells and installation of the associated conveyance systems.

FEDERAL THRESHOLDS

NEPA guidelines do not encourage designation of impacts as (in)significant. However, Section 176(c) of the Clean Air Act Amendments of 1990 prohibits federal participation in projects that would impede implementation of the state implementation plan (SIP) for federal non-attainment pollutants. “Participation” includes project funding as well as granting any federal permits. If the project-related emissions from construction and operations are less than specified “*de minimis*” levels, no further SIP consistency demonstration is required. Based upon the current attainment status shown in Table 4 the following emissions levels are presumed evidence of SIP conformity:²

Ozone VOX or NOx	10 tons/year
Carbon Monoxide	100 tons/year
PM-10	100 tons/year
PM-2.5	70 tons/year
NOx	100 tons/year

These *de minimis* thresholds are less stringent than the SJVAPCD CEQA thresholds. If project air quality impacts in the basin are less-than-significant under CEQA, they are automatically in conformance under NEPA.

² <https://www.epa.gov/general-conformity/de-minimis-tables>

AIR QUALITY IMPACT

CONSTRUCTION ACTIVITY IMPACTS

CalEEMod was developed by the SCAQMD to provide a model by which to calculate both construction emissions and operational emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions.

The proposed project consists of four replacement wells at different locations. The project also includes extension of new water lines and demolition of the existing wells and installation of new water meters. The primary composition of the proposed project is as follows:

- Well 13 Replacement Site: An approximate 1.6-acre site
- Well 11 Replacement Site: An approximate 1.0-acre site
- Well 5 Replacement Site: An approximate 0.27-acre site
- Fourth Potential Well Site: An approximate 1.0-acre site

LPUD will drill the test wells using a casing hammer drill at each location and will be drilled to an approximate depth of 900 feet. Once drilled, each well will be equipped with vertical turbine pumps, motors, discharge piping, electrical and controls, and connections installed to the existing distribution system.

In conjunction with replacement of the wells the following actions will be completed: properly abandon EAPOA Wells 1 and 2; demolish the existing EAPOA 25,000- and 44,000-gallon water storage tanks (steel storage tanks); demolish and remove existing booster pump stations at Well 1 and 2; and install water meters at the existing 81 water connections.

It is assumed that a working crew of 4 persons will conduct well drilling at each well location. The test wells should be completed within 30 working days. Depending on the well viability, a production well drilling rig will then be brought onto the property and will be drilled. This will require about 40 working days of continuous drilling to complete. Once a production well has been completed, the well will be equipped and the pipeline connecting to the LPUD water distribution system will be installed.

A new 10-inch (10") water transmission line is proposed to be installed along Di Giorgio Road which will require excavation and installation of approximately 11,000 feet of pipeline. Assuming 200 feet of line installation per day for a single pipeline installation crew the 11,000 feet of 10" pipeline installation will require about 55 working days.

At the intersection of Di Giorgio Road and Alderwood Street an 8" diameter water distribution line will connect into the 10" transmission line and a new looped distribution line will be installed within the residential area. This new water line will be approximately 20,000 feet in length. The pipeline crew will each require about six employees to complete about 200 feet of pipeline

installation per day. This is estimated to require an estimated 100 working days to complete installation.

Estimated construction emissions were modeled using CalEEMod2016.3.2 to identify maximum emissions for each pollutant during project construction.

CalEEMod Construction Activity Equipment Fleet and Workdays

Demo or Abandon Existing Wells (2 months)	1 Concrete Saw
	1 Dozer
	2 Loader/Backhoes
Test Wells Drilling (30 days)	1 Drill Rig
	1 Pump
Production Well Drilling and Casing (40 days)	1 Drill Rig
	1 Pump
	1 Loader/Backhoe
Equipping Production Wells (20 weeks)	1 Crane
	1 Welder
	1 Loader/Backhoe
	1 Generator Set
	1 Forklift
Trench and Install Pipeline (8 months)	1 Concrete Saw
	1 Trencher
	1 Forklift
	1 Loader/Backhoe

For drilling, some equipment would operate 24 hours a day and was modeled accordingly. Although installation of the water meters at the existing 81 water connections is part of this project it is assumed this activity will be accomplished with hand tools and therefore was not included.

Utilizing this indicated equipment fleet and durations the following annual construction emissions are calculated by CalEEMod and are listed below.

**Construction Activity Emissions
Maximum Annual Emissions (tons/year)**

Maximal Construction Emissions	ROG	NOx	CO	SO₂	PM-10	PM-2.5
Construction 2022	0.14	1.26	1.28	<0.01	0.29	0.18
Construction 2023	0.07	0.53	0.67	<0.01	0.05	0.03
NEPA Threshold	10	100	100	100	100	70
JQVAPCD Regional Emissions Threshold	10	10	100	27	15	15

Source: CalEEMod output in appendix

Annual construction activity emissions are estimated be below CEQA and NEPA thresholds without the need for added mitigation. There are no standards for daily emissions.

Emissions will be well below significance thresholds. Locally, the mobile nature of these sources, the minimal surrounding receptor density and the regional spread of emissions from off-site construction vehicles would minimize the exposure to any individual receiver of any project-related construction emissions. These emissions, therefore have a less than significant individual impact, but would be added cumulatively to a large volume of non-project mobile source emissions within the Kern County area.

OPERATIONAL IMPACTS

A water storage and distribution project will not have any associated operational impacts. The project will not generate any additional trips over existing conditions although electrical consumption for pumping may be minutely increased. Electrical consumption has no single uniquely related air pollution emissions source because power is supplied to and drawn from a regional grid. Electrical power is generated regionally by a combination of non-combustion (nuclear, hydroelectric, solar, wind, geothermal, etc.) and fossil fuel combustion sources. There is no direct nexus between consumption and the type of power source or the air basin where the source is located. Operational air pollution emissions from electrical generation are therefore not attributable on a project-specific basis.

ODOR

Project operations (storage and conveyance) are essentially a closed system with negligible odor potential.

CONSTRUCTION EMISSIONS MINIMIZATION

Construction activities are not anticipated to cause emissions to exceed CEQA or NEPA thresholds. Nevertheless, emissions minimization through enhanced dust control measures is required to comply with SJVAPCD Regulation VIII related to dust control.

Regulation VIII Control Measures for Construction Emissions of PM-10

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
- With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.
- When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.)
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
- Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.
- An owner/operator of any site with 150 or more vehicle trips per day, or 20 or more vehicle trips per day by vehicles with three or more axles shall implement measures to prevent carryout and trackout.

Recommended Enhanced Additional Measures for Construction Emissions of PM-10

- Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the site.
- Install wind breaks at windward side(s) of construction areas.
- Suspend excavation and grading activity when winds exceed 20 mph.
- Limit area subject to excavation, grading, and other construction activity at any one time.

Recommended for Heavy Duty Equipment (scrapers, graders, trenchers, earth movers, etc.)

- Use alternative fueled or catalyst equipped diesel construction equipment.
- Minimize idling time (e.g., 5 minutes maximum).
- Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).
- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g. rescheduling activities to reduce short-term impacts).

GREENHOUSE GAS EMISSIONS

“Greenhouse gases” (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as “global warming.” These greenhouse gases contribute to an increase in the temperature of the earth’s atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statutes and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California’s reputation as a “national and international leader on energy conservation and environmental stewardship.” It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Requires the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual practices by 2020.
- Dictates that any local initiatives must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency.

GREENHOUSE GAS EMISSIONS SIGNIFICANCE THRESHOLDS

In response to the requirements of SB97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March, 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated³. The process is broken down into quantification of project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative, or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate”. The most common practice for transportation/combustion GHG emissions quantification is to use a computer model such as CalEEMod, as was used in the ensuing analysis.

In the Final Staff Report Addressing GHG Emissions Impacts under CEQA, the SJVAPCD notes that ARB staff derived a proposed hybrid threshold consisting of a quantitative threshold of 7,000 metric tons of CO₂ equivalent per year (MTCO₂E/year) for operational emissions (excluding transportation), and performance standards for construction and transportation emissions (CARB).

ARB concludes in its draft proposal that the 7,000 MTCO₂e/year benchmark can be used to effectively mitigate industrial projects with significant GHG emissions. To date, ARB has not finalized its draft proposed threshold, nor has ARB scheduled additional workshops to seek public input on establishing a significance threshold for assessing significance of project specific GHG emission impacts on global climate change. However, in the absence of any other guidance, this 7,000 MT per year recommendation has been used as a guideline for this analysis.

³ <https://www.cacities.org/UploadedFiles/LeagueInternet/1c/1c6e4716-42eb-4a2d-ac42-1353a6283a47.pdf>

PROJECT RELATED GHG EMISSIONS GENERATION

Construction Activity GHG Emissions

During project construction, the CalEEMod2016.3.2 computer model predicts that the construction activities will generate 252.8 MT CO_{2e} emissions in 2022 and 96.7 MT CO_{2e} in 2023. This is less than the adopted threshold for use by this project. GHG impacts from construction are considered less-than-significant.

CONSISTENCY WITH EXISTING AIR QUALITY PLANS

In December 2009 the SJVAPCD issued a final staff report addressing greenhouse gas emissions under CEQA. That only language directly related to this project states that the lead agency should identify GHG emissions based on available information to calculate, model or estimate the amount of CO₂ and other GHG emissions.

With regard to consistency with existing air quality plans, it was determined that because the proposed project would not generate population, residences, or substantial employment, it would neither conflict with nor interfere with the County's adopted growth forecast. Furthermore, as shown in this report, the proposed project's contribution to regional air emissions in the San Joaquin Valley would be very small and are only one time construction emissions. When compliance with applicable rules, such as the SJVAPCD's required emissions controls is considered, the proposed project's regional contribution to cumulative air quality impacts would be almost negligible.

CALEEMOD2016.3.2 COMPUTER MODEL OUTPUT

- **ANNUAL EMISSIONS**

Lamont Public Utilities District New Wells - Kern-San Joaquin County, Annual

**Lamont Public Utilities District New Wells
Kern-San Joaquin County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	4.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	32
Climate Zone	3			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Lamont

Land Use - wells and distribution lines

Construction Phase - Demo and Abandon: 2 months, Test Well: 30 days, Production Well: 40 days, Equip Well: 20 weeks, Pipeline: 8 months

Off-road Equipment - Demo Existing Wells: 1 concret saw, 1 dozer, 2 loader/backhoes

Off-road Equipment - Test Well: 1 drill rig, 1 pump

Off-road Equipment - Production Wells: drill rig, pump, loader/backhoe

Off-road Equipment - Equip: 1 crane, 1 forklift, 1 gen set, 1 loader/backhoe, 1 welder

Off-road Equipment - Pipeline: 1 concrete saw, 1 trencher, 1 forklift, 1 loader/backhoe

Construction Off-road Equipment Mitigation -

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	8.00	40.00
tblConstructionPhase	NumDays	8.00	30.00
tblConstructionPhase	NumDays	230.00	100.00
tblConstructionPhase	PhaseEndDate	2/28/2022	3/28/2022
tblConstructionPhase	PhaseEndDate	3/17/2022	7/14/2022
tblConstructionPhase	PhaseEndDate	2/28/2023	8/11/2023
tblConstructionPhase	PhaseStartDate	3/8/2022	5/20/2022
tblConstructionPhase	PhaseStartDate	2/3/2023	1/1/2023
tblGrading	AcresOfGrading	20.00	4.00
tblLandUse	LotAcreage	0.00	4.00
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Test Wells
tblOffRoadEquipment	PhaseName		Pipeline Install
tblOffRoadEquipment	PhaseName		Pipeline Install
tblOffRoadEquipment	PhaseName		Pipeline Install
tblOffRoadEquipment	PhaseName		Pipeline Install
tblOffRoadEquipment	PhaseName		Production Wells
tblOffRoadEquipment	PhaseName		Production Wells
tblOffRoadEquipment	PhaseName		Demo and Well Abandonment
tblOffRoadEquipment	PhaseName		Test Wells
tblOffRoadEquipment	UsageHours	7.00	4.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-1-2022	4-30-2022	0.4577	0.3451
2	5-1-2022	7-31-2022	0.4382	0.0790
3	8-1-2022	10-31-2022	0.3304	0.3304
4	11-1-2022	1-31-2023	0.2483	0.2215
5	2-1-2023	4-30-2023	0.2386	0.1616
6	5-1-2023	7-31-2023	0.2465	0.1669
7	8-1-2023	9-30-2023	0.0295	0.0200
		Highest	0.4577	0.3451

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demo and Well Abandonment	Demolition	2/1/2022	3/28/2022	5	40	
2	Test Wells	Grading	4/1/2022	5/12/2022	5	30	
3	Production Wells	Grading	5/20/2022	7/14/2022	5	40	
4	Well Equipping	Building Construction	8/1/2022	12/16/2022	5	100	
5	Pipeline Install	Trenching	1/1/2023	8/11/2023	5	160	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

Offroad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Well Equipping	Cranes	1	4.00	231	0.29
Demo and Well Abandonment	Concrete/Industrial Saws	1	8.00	81	0.73
Test Wells	Bore/Drill Rigs	1	24.00	221	0.50
Production Wells	Pumps	1	24.00	84	0.74
Well Equipping	Forklifts	1	8.00	89	0.20
Pipeline Install	Concrete/Industrial Saws	1	6.00	81	0.73
Demo and Well Abandonment	Rubber Tired Dozers	1	8.00	247	0.40
Pipeline Install	Trenchers	1	6.00	78	0.50
Well Equipping	Generator Sets	1	8.00	84	0.74
Production Wells	Bore/Drill Rigs	1	24.00	221	0.50
Production Wells	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Install	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Install	Forklifts	1	6.00	89	0.20
Well Equipping	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Well Equipping	Welders	1	8.00	46	0.45
Demo and Well Abandonment	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Test Wells	Pumps	1	10.00	84	0.74

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Well Equipping	9	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Test Wells	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Demo and Well Abandonment	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Production Wells	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install	8	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

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3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demo and Well Abandonment - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0305	0.2989	0.2345	4.2000e-004		0.0150	0.0150		0.0140	0.0140	0.0000	36.6898	36.6898	8.9800e-003	0.0000	36.9142
Total	0.0305	0.2989	0.2345	4.2000e-004		0.0150	0.0150		0.0140	0.0140	0.0000	36.6898	36.6898	8.9800e-003	0.0000	36.9142

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3.2 Demo and Well Abandonment - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3800e-003	9.2000e-004	9.3700e-003	4.0000e-005	3.7600e-003	2.0000e-005	3.7800e-003	1.0000e-003	2.0000e-005	1.0200e-003	0.0000	3.1752	3.1752	7.0000e-005	0.0000	3.1769
Total	1.3800e-003	9.2000e-004	9.3700e-003	4.0000e-005	3.7600e-003	2.0000e-005	3.7800e-003	1.0000e-003	2.0000e-005	1.0200e-003	0.0000	3.1752	3.1752	7.0000e-005	0.0000	3.1769

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0305	0.2989	0.2345	4.2000e-004		0.0150	0.0150		0.0140	0.0140	0.0000	36.6897	36.6897	8.9700e-003	0.0000	36.9141
Total	0.0305	0.2989	0.2345	4.2000e-004		0.0150	0.0150		0.0140	0.0140	0.0000	36.6897	36.6897	8.9700e-003	0.0000	36.9141

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3.2 Demo and Well Abandonment - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3800e-003	9.2000e-004	9.3700e-003	4.0000e-005	3.7600e-003	2.0000e-005	3.7800e-003	1.0000e-003	2.0000e-005	1.0200e-003	0.0000	3.1752	3.1752	7.0000e-005	0.0000	3.1769
Total	1.3800e-003	9.2000e-004	9.3700e-003	4.0000e-005	3.7600e-003	2.0000e-005	3.7800e-003	1.0000e-003	2.0000e-005	1.0200e-003	0.0000	3.1752	3.1752	7.0000e-005	0.0000	3.1769

3.3 Test Wells - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0167	0.1577	0.1618	5.5000e-004		6.1900e-003	6.1900e-003		5.9300e-003	5.9300e-003	0.0000	47.8922	47.8922	0.0126	0.0000	48.2073
Total	0.0167	0.1577	0.1618	5.5000e-004	0.0983	6.1900e-003	0.1045	0.0505	5.9300e-003	0.0564	0.0000	47.8922	47.8922	0.0126	0.0000	48.2073

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3.3 Test Wells - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0400e-003	6.9000e-004	7.0300e-003	3.0000e-005	2.8200e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.3814	2.3814	5.0000e-005	0.0000	2.3827
Total	1.0400e-003	6.9000e-004	7.0300e-003	3.0000e-005	2.8200e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.3814	2.3814	5.0000e-005	0.0000	2.3827

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0442	0.0000	0.0442	0.0227	0.0000	0.0227	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0167		0.1618	5.5000e-004		6.1900e-003	6.1900e-003		5.9300e-003	5.9300e-003	0.0000	47.8922	47.8922	0.0126	0.0000	48.2072
Total	0.0167		0.1618	5.5000e-004	0.0442	6.1900e-003	0.0504	0.0227	5.9300e-003	0.0287	0.0000	47.8922	47.8922	0.0126	0.0000	48.2072

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3.3 Test Wells - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0400e-003	6.9000e-004	7.0300e-003	3.0000e-005	2.8200e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.3814	2.3814	5.0000e-005	0.0000	2.3827
Total	1.0400e-003	6.9000e-004	7.0300e-003	3.0000e-005	2.8200e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.3814	2.3814	5.0000e-005	0.0000	2.3827

3.4 Production Wells - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1226	0.0000	0.1226	0.0664	0.0000	0.0664	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0379	0.3476	0.3911	1.0200e-003		0.0155	0.0155		0.0150	0.0150	0.0000	89.1041	89.1041	0.0196	0.0000	89.5937
Total	0.0379	0.3476	0.3911	1.0200e-003	0.1226	0.0155	0.1381	0.0664	0.0150	0.0814	0.0000	89.1041	89.1041	0.0196	0.0000	89.5937

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3.4 Production Wells - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3800e-003	9.2000e-004	9.3700e-003	4.0000e-005	3.7600e-003	2.0000e-005	3.7800e-003	1.0000e-003	2.0000e-005	1.0200e-003	0.0000	3.1752	3.1752	7.0000e-005	0.0000	3.1769
Total	1.3800e-003	9.2000e-004	9.3700e-003	4.0000e-005	3.7600e-003	2.0000e-005	3.7800e-003	1.0000e-003	2.0000e-005	1.0200e-003	0.0000	3.1752	3.1752	7.0000e-005	0.0000	3.1769

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0552	0.0000	0.0552	0.0299	0.0000	0.0299	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0379	0.0335	0.3911	1.0200e-003		0.0155	0.0155		0.0150	0.0150	0.0000	89.1040	89.1040	0.0196	0.0000	89.5936
Total	0.0379	0.0335	0.3911	1.0200e-003	0.0552	0.0155	0.0707	0.0299	0.0150	0.0449	0.0000	89.1040	89.1040	0.0196	0.0000	89.5936

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3.4 Production Wells - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3800e-003	9.2000e-004	9.3700e-003	4.0000e-005	3.7600e-003	2.0000e-005	3.7800e-003	1.0000e-003	2.0000e-005	1.0200e-003	0.0000	3.1752	3.1752	7.0000e-005	0.0000	3.1769
Total	1.3800e-003	9.2000e-004	9.3700e-003	4.0000e-005	3.7600e-003	2.0000e-005	3.7800e-003	1.0000e-003	2.0000e-005	1.0200e-003	0.0000	3.1752	3.1752	7.0000e-005	0.0000	3.1769

3.5 Well Equipping - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0526	0.4502	0.4715	8.1000e-004		0.0223	0.0223		0.0214	0.0214	0.0000	69.0160	69.0160	0.0126	0.0000	69.3312
Total	0.0526	0.4502	0.4715	8.1000e-004		0.0223	0.0223		0.0214	0.0214	0.0000	69.0160	69.0160	0.0126	0.0000	69.3312

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3.5 Well Equipping - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0526	0.4502	0.4715	8.1000e-004		0.0223	0.0223		0.0214	0.0214	0.0000	69.0159	69.0159	0.0126	0.0000	69.3311
Total	0.0526	0.4502	0.4715	8.1000e-004		0.0223	0.0223		0.0214	0.0214	0.0000	69.0159	69.0159	0.0126	0.0000	69.3311

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3.5 Well Equipping - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.6 Pipeline Install - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0591	0.5295	0.6222	9.2000e-004		0.0308	0.0308		0.0289	0.0289	0.0000	80.0136	80.0136	0.0170	0.0000	80.4395
Total	0.0591	0.5295	0.6222	9.2000e-004		0.0308	0.0308		0.0289	0.0289	0.0000	80.0136	80.0136	0.0170	0.0000	80.4395

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3.6 Pipeline Install - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8800e-003	4.3900e-003	0.0458	1.8000e-004	0.0201	1.2000e-004	0.0202	5.3200e-003	1.1000e-004	5.4400e-003	0.0000	16.2969	16.2969	3.2000e-004	0.0000	16.3050
Total	6.8800e-003	4.3900e-003	0.0458	1.8000e-004	0.0201	1.2000e-004	0.0202	5.3200e-003	1.1000e-004	5.4400e-003	0.0000	16.2969	16.2969	3.2000e-004	0.0000	16.3050

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0591	0.3355	0.6222	9.2000e-004		0.0308	0.0308		0.0289	0.0289	0.0000	80.0135	80.0135	0.0170	0.0000	80.4394
Total	0.0591	0.3355	0.6222	9.2000e-004		0.0308	0.0308		0.0289	0.0289	0.0000	80.0135	80.0135	0.0170	0.0000	80.4394

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3.6 Pipeline Install - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8800e-003	4.3900e-003	0.0458	1.8000e-004	0.0201	1.2000e-004	0.0202	5.3200e-003	1.1000e-004	5.4400e-003	0.0000	16.2969	16.2969	3.2000e-004	0.0000	16.3050
Total	6.8800e-003	4.3900e-003	0.0458	1.8000e-004	0.0201	1.2000e-004	0.0202	5.3200e-003	1.1000e-004	5.4400e-003	0.0000	16.2969	16.2969	3.2000e-004	0.0000	16.3050

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.487920	0.030073	0.170877	0.112061	0.016651	0.005572	0.019337	0.146855	0.001612	0.001610	0.005760	0.000912	0.000759

5.0 Energy Detail

Historical Energy Use: N

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5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr										MT/yr						
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

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7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

APPENDIX 4

February 2, 2022

Tom Dodson and Associates

Attention: Tom Dodson
2150 N. Arrowhead Avenue
San Bernardino, CA 92405

**SUBJECT: 2022 Biological Resources Assessment
For the Lamont Public Utilities District
Water Supply Improvement Project**

Dear Mr. Dodson,

The Lamont Public Utilities District (District) is proposing to improve the water supply with the development of four new wells and constructing a 10" diameter water pipeline within the existing disturbed road right-of-way of Di Giorogio Road to the El Adobe Property Owners Association (EAPOA) (Project). The proposed project is located within the unincorporated community of Lamont, Kern County, California.

In accordance with the CEQA-Plus process (California Environmental Quality Act [CEQA]), a Biological Resources Assessment (BRA) was prepared for the District's Project by Jacobs Engineering Group, Inc. (Jacobs) on September 28, 2021 and December 10, 2021. The purpose of the BRA was to address potential effects of the proposed Project on U.S. Fish and Wildlife Service (USFWS) designated Critical Habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA), as well as species designated as sensitive by the California Department of Fish and Wildlife (CDFW) or the California Native Plant Society (CNPS). This BRA also addresses resources protected under the: Magnuson-Stevens Fishery Conservation and Management Act, the Protection of Wetlands – Executive Order 11990, Migratory Bird Treaty Act and Wild and Scenic Rivers Act.

In addition to the BRA, Jacobs conducted a jurisdictional waters assessment of the Project Area. The purpose of this assessment was to determine the presence and extent of any State and/or federal jurisdictional waters within the Project Area potentially subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and Porter Cologne Water Quality Control Act, and CDFW under Section 1602 of the California Fish and Game Code (FGC), respectively.

Note: According to protocol and standard practices, the results of the BRA surveys would typically remain valid for the period of one year, or until December 2022. After that time, if the site has not been disturbed in the interim, updated surveys may be required.

PROJECT LOCATION

The Project Area, the Lamont Public Utilities District (LPUD), is located in the southern San Joaquin Valley, about five miles southeast of downtown Bakersfield, Kern County, California (Figure 1). The Project area is mapped on the USGS 7.5-Minute Quadrangle "Lamont" and "Weed Patch" within Sections 1, 6 and 7, Township 31 South, Range 28 and 29 East, Mount Diablo Base and Meridian.

PROJECT DESCRIPTION

The project being considered at this time is the drilling, testing, and equipping of four new wells at the locations identified above, and the extension of a water line to the EAPOA and installation of a loop distribution system within the EAPOA property boundary as shown on Figures 2 and 3. The LPUD will drill the test wells using a casing hammer drill at each location. The test well will be drilled to an approximate depth of 900 feet with systematic tests to determine an actual production zone of groundwater without substantial contamination. Assuming adequate water quality meeting drinking water standards, a production well will be constructed with continued water quality monitoring. Once drilled, each well will be equipped with vertical turbine pumps, motors, discharge piping, electrical and controls, and connections installed to the existing distribution system. If needed, well head treatment may be added to one or more of the wells. The LPUD will install a supervisory control and data acquisition (SCADA) system for remote monitoring and control of the District facilities.

To supply the EAPOA project area, a 10" diameter water transmission line will be installed within the existing disturbed road right-of-way of Di Giorgio Road. This will encompass installing approximately 11,000 feet of pipeline in this alignment. At the intersection of Di Giorgio Road and Alderwood Street an 8" diameter water distribution line will connect into the 10" transmission line and a new looped distribution line will be installed within the residential area. This new water line will be approximately 20,000 feet in length. The proposed EAPOA community water distribution line is shown on Figure 3. In conjunction with replacement of the existing EAPOA water system the following actions will be completed: properly abandon EAPOA Wells 1 and 2; demolish the existing EAPOA 25,000- and 44,000-gallon water storage tanks (steel storage tanks); demolish and remove existing booster pump stations at Well 1 and 2; and install water meters at the existing 81 water connections.

Well Replacement Locations:

Well 13 Replacement Site: An approximate 1.6-acre site located at the northwest corner of San Diego Street and Hall Road, APN 186-080-05.

Well 11 Replacement Site: An approximate 1.0-acre site located at the northwest corner of APN 187-030-04 also being the south side of DiGiorgio Road approximately a quarter-mile west of Weedpatch Highway.

Well 5 Replacement Site: An approximate 0.27-acre site located at the southeast corner of Maxey Drive and Weedpatch Highway, APN 188-290-32.

Fourth Potential Well Site: An approximate 1.0-acre site located east of Habecker Road and north of the extension of Segrue Road, at the southeast corner of APN 188-250-30

In addition to the well replacement project, the District is considering the consolidation of the El Adobe Property Owners Association (EAPOA) as part of the District's for water potable service. The EAPOA is a small community of approximately 250 residents located approximately two miles west

of Lamont. To serve this area a new 10-inch (10") water transmission line is proposed to be installed along Di Giorgio Road.

The proposed well sites and pipelines are depicted on Figures 2 and 3.

ENVIRONMENTAL SETTING

The Project Area is within the Lamont area of unincorporated Kern County, which is situated in the southern end of the San Joaquin Valley and is bound by the Coast Range to the west, the Transverse Range (San Emigdio Mountains) to the south, and the Sierra Nevada (including the Tehachapi Mountains) to the east. The Lamont area is subject to an arid climate, with both seasonal and annual variations in temperature and precipitation. Average annual maximum temperatures within this region peak at 98.4 degrees Fahrenheit (° F) in July and fall to an average annual minimum temperature of 34.5° F in December. Average annual precipitation is greatest from November through April and reaches a peak in February (1.07 inches). Precipitation is lowest in the months of July and August (0.02 inches). Annual total precipitation averages 5.64 inches. The topography of the Project Area is relatively flat, with an on-site elevation of approximately 400 feet above mean sea level (amsl).

The primary soil types within the Project Area are Milham sandy loam, 0 to 2 percent slopes and Lokern clay, saline-alkali, drained. Milham sandy loam soils consist of sandy loam, loam and clay loams comprised of alluvium derived from igneous and sedimentary rock. This soil type typically occurs on terraces, alluvial fans, plains and fan remnants, is well drained with a medium runoff class and is considered prime farmland if irrigated. Lokern clay soils consist of clay and stratified fine sandy loam to sandy clay loam comprised of alluvium derived from granite. This soil type typically occurs on basin floors, is moderately well drained with a very high runoff class and is not considered prime farmland.

The proposed Project is entirely within an existing developed/disturbed environment consisting of existing residential dwellings, agricultural fields and paved and unpaved roads (Figure 3). The surrounding land consists of agricultural and residential development and no longer supports any native habitats. Vegetation within the Project Area is either absent (i.e., the proposed solar field and pipeline alignment) or dominated by non-native, invasive and ruderal species (see Site Photos).

REGULATORY FRAMEWORK

Federal Endangered Species Act (ESA)

The federal Endangered Species Act (ESA) of 1973 protects plants and wildlife that are listed by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) as endangered or threatened. Section 9 of the ESA (USA) prohibits the taking of endangered wildlife, where taking is defined as any effort to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 United States Code [USC] 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect an endangered species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity, provided the action will not jeopardize the continued existence of the species. The ESA specifies that the USFWS designate habitat for a species at the time of its listing

in which are found the physical or biological features “essential to the conservation of the species,” or which may require “special Management consideration or protection...” (16 USC § 1533[a][3].2; 16 USC § 1532[a]). This designated Critical Habitat is then afforded the same protection under the ESA as individuals of the species itself, requiring issuance of an Incidental Take Permit prior to any activity that results in “the destruction or adverse modification of habitat determined to be critical” (16 USC § 1536[a][2]).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 implements international treaties between the United States and other nations created to protect migratory birds, any of their parts, eggs, and nests from activities, such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code (CFGC).

However, on December 22, 2017 the U.S. Department of the Interior (DOI) issued a memorandum concluding that MBTA’s prohibitions on take apply “[...] only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs” (DOI 2017). Therefore, take of migratory birds or their active nests (i.e., with eggs or young) that is incidental to, and not the purpose of, an otherwise lawful activity does not constitute a violation of the MBTA. Then, on April 11, 2018, the USFWS issued a guidance memorandum that provided further clarification on their interpretation:

“We interpret the M-Opinion to mean that the MBTA’s prohibitions on take apply when the purpose of an action is to take migratory birds, their eggs, or their nests. Conversely, the take of birds, eggs or nests occurring as the result of an activity, the purpose of which is not to take birds, eggs or nests, is not prohibited by the MBTA” (USFWS 2018).

Therefore, the MBTA is currently interpreted to prohibit the take of birds, nests or eggs when the *purpose* or *intent* of the action is to take birds, eggs or nests, not when the take of birds, eggs or nests is incidental to but not the intended purpose of an otherwise lawful action.

California Endangered Species Act

The California Endangered Species Act (CESA) (Sections 2050 to 2085) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats by protecting “all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation.” Animal species are listed by the CDFW as threatened or endangered, and plants are listed as rare, threatened, or endangered. However, only those plant species listed as threatened or endangered receive protection under the California ESA.

CESA mandates that state agencies do not approve a Project that would jeopardize the continued existence of these species if reasonable and prudent alternatives are available that would avoid a jeopardy finding. There are no state agency consultation procedures under the California ESA. For Projects that would affect a species that is federally and State listed, compliance with ESA satisfies

the California ESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with the California ESA under Section 2080.1. For Projects that would result in take of a species that is state listed only, the Project sponsor must apply for a take permit, in accordance with Section 2081(b).

Fully Protected Species

Four sections of the California Fish and Game Code (CFGF) list 37 fully protected species (CFGF Sections 3511, 4700, 5050, and 5515). These sections prohibit take or possession "at any time" of the species listed, with few exceptions, and state that "no provision of this code or any other law will be construed to authorize the issuance of permits or licenses to 'take' the species," and that no previously issued permits or licenses for take of the species "shall have any force or effect" for authorizing take or possession.

Bird Nesting Protections

Bird nesting protections (Sections 3503, 3503.5, 3511, 3513 and 3800) in the CFGF include the following:

- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 prohibits the take, possession, or needless destruction of any nests, eggs, or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys, and falcons, among others), and Strigiformes (owls).
- Section 3511 prohibits the take or possession of Fully protected birds.
- Section 3513 prohibits the take or possession of any migratory nongame bird or part thereof, as designated in the MBTA. To avoid violation of the take provisions, it is generally required that Project-related disturbance at active nesting territories be reduced or eliminated during the nesting cycle.

Section 3800 prohibits the take of any non-game bird (i.e., bird that is naturally occurring in California that is not a gamebird, migratory game bird, or fully protected bird).

Native Plant Protection Act

The Native Plant Protect Act (NPPA) (1977) (CFGF Sections 1900-1913) was created with the intent to "preserve, protect, and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Game Commission has the authority to designate native plants as endangered or rare and to protect endangered and rare plants from take. CESA (CFGF 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the FGf.

SPECIAL STATUS SPECIES AND HABITATS

Prior to performing the field survey, available databases and documentation relevant to the Project Area were reviewed for documented occurrences of special status species in the Project vicinity (approximately 1 mile). The USFWS threatened and endangered species occurrence data overlay, USFWS Information for Planning and Consultation System (IPaC) and the most recent versions of the California Natural Diversity Database (CNDDB; *Rarefind 5*) and California Native Plant Society Electronic Inventory (CNPSEI) databases were searched for sensitive species data in the "Lamont"

and “Weed Patch” USGS 7.5-Minute Series Quadrangle. Additionally, the USFWS National Wetland Inventory Environmental Protection Agency (EPA) Water Program “My Waters” data layers were viewed to determine the presence of any previously-documented water resources. These databases contain records of reported occurrences of State- and federally-listed species or otherwise special status species and habitats that may occur within the vicinity of the Project site (approximately 1 mile).

According to the database queries and literature review, 16 special status species and 1 sensitive habitat have been identified as potentially occurring in the Project vicinity. Of the 16 special status species identified, 5 are State and/or federally listed as threatened or endangered. Table 1 (attached) represents a compiled list of results from the IPaC, CNDDDB and CNPS databases of listed species that have been documented in the *Lamont* quad and/or could potentially occur within the Project vicinity. Table 1 also provides an assessment of each species’ potential to occur on site, based on the field investigation of the Project area and surveyor’s knowledge of the species and local ecology. Please refer to the attached IPaC List and CNDDDB and CNPSEI Results for a complete list of all special status species and habitats identified in the database queries.

No sensitive or listed species are likely to occur within the Project area.

Critical Habitat

The Project Area is not located within or adjacent any USFWS designated Critical Habitat units.

SURVEY RESULTS

Jacobs biologist Lisa Patterson conducted a biological resources and jurisdictional waters assessment of the Project Area on September 28 and December 10, of 2021. The survey area encompassed the entire proposed Project footprint including the proposed Project’s proposed wells and proposed water supply pipelines and well sites where access was available. The pedestrian survey included 100 percent coverage of the proposed pipeline alignments, as well as an approximately 200-foot buffer area on either side of the pipeline alignment, where feasible and appropriate.

Wildlife species were detected during field surveys by sight, calls, tracks, scat, or other signs. In addition to species observed, expected wildlife usage of the site was determined per known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. The Project Area was assessed for habitat type, structure, species composition/association, condition and human disturbances. The focus of the faunal species survey was to identify potential habitat for special status wildlife within the Project area.

The Project site is completely disturbed, consisting of residences, small ranches, unvegetated fallow agricultural land, existing paved and unpaved road, and existing District facilities. No listed species, or other special status species, were observed during survey and no suitable habitat for any of the State- or federally-listed species identified in the database queries and literature review exists within the proposed Project Impact Area. The surrounding area is also disturbed, consisting primarily of residential development, utility infrastructure and agriculture.

There are no channels, ditches or other water features occurring within the Project area.

EFFECTS ANALYSIS

The Project will not result in any direct impacts to State- and/or federally-listed species or other special status species, including any California Fully Protected species or California rare and endangered plant species. The Project will not result in the loss or adverse modification of USFWS designated Critical Habitat.

There are no canals or other drainage features, man-made, irrigation ditch, or natural features. Therefore, there are no Waters of the U.S. (WoUS) or excavated in a tributary and does not drain any wetlands. Therefore, the Project would not require CWA Section 404 permitting. Further, there are not features that would meet the CDFW definition of a lake, river or stream and does not support any aquatic resources, stream-dependent wildlife resources or riparian habitat. Therefore, the Project would not require FGC Section 1602 permitting.

There is habitat within the Project area that is suitable to support nesting birds, including open ground-nesting species such as killdeer (*Charadrius vociferus*). Most native bird species are protected from unlawful take by the MBTA and Sections 3503, 3503.5, 3511, 3513 and 3800 of the CFGC. In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season, which is generally February 1st through August 31st. However, if all work cannot be conducted outside of nesting season, a Project-specific Nesting Bird Management Plan can be prepared to determine suitable avoidance buffers.

CONCLUSIONS AND RECOMMENDATIONS

The Project may affect but is not likely to adversely affect any State or Federally listed species. To avoid any potential Project-related effects on these listed species, therefore no species-specific avoidance measures are recommended.

In order to avoid impacts to nesting birds (common and special status) during the nesting season, a qualified Avian Biologist should conduct pre-construction Nesting Bird Surveys (NBS) prior to Project-related disturbance to suitable nesting areas to identify any active nests. If no active nests are found, no further action would be required. If an active nest is found, the biologist should set appropriate no-work buffers around the nest which would be based upon the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nest(s) and buffer zones should be field checked weekly by a qualified biological monitor. The approved no-work buffer zone should be clearly marked in the field, within which no disturbance activity should commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.

Please feel free to contact me if you have any questions or require any further information.

Thank you,

Lisa M. Patterson, Ecologist/Regulatory Specialist/QSP

National Senior Environmental Manager

47994 Lily Mine Way | O'Neals, CA | 93645

Office/Cell: (909) 838-1333

Email: Lisa.Patterson@jacobs.com | Website: www.jacobs.com

Attachments:

Figures:

- Figure 1 – Regional Vicinity Map
- Figure 2 – Topographic Map of Site Location
- Figure 3 – Aerial Photograph of Site Location

Table 1: Listed Species Occurrence Potential

Site Photos

IPaC List and CNDDDB and CNPSEI Results

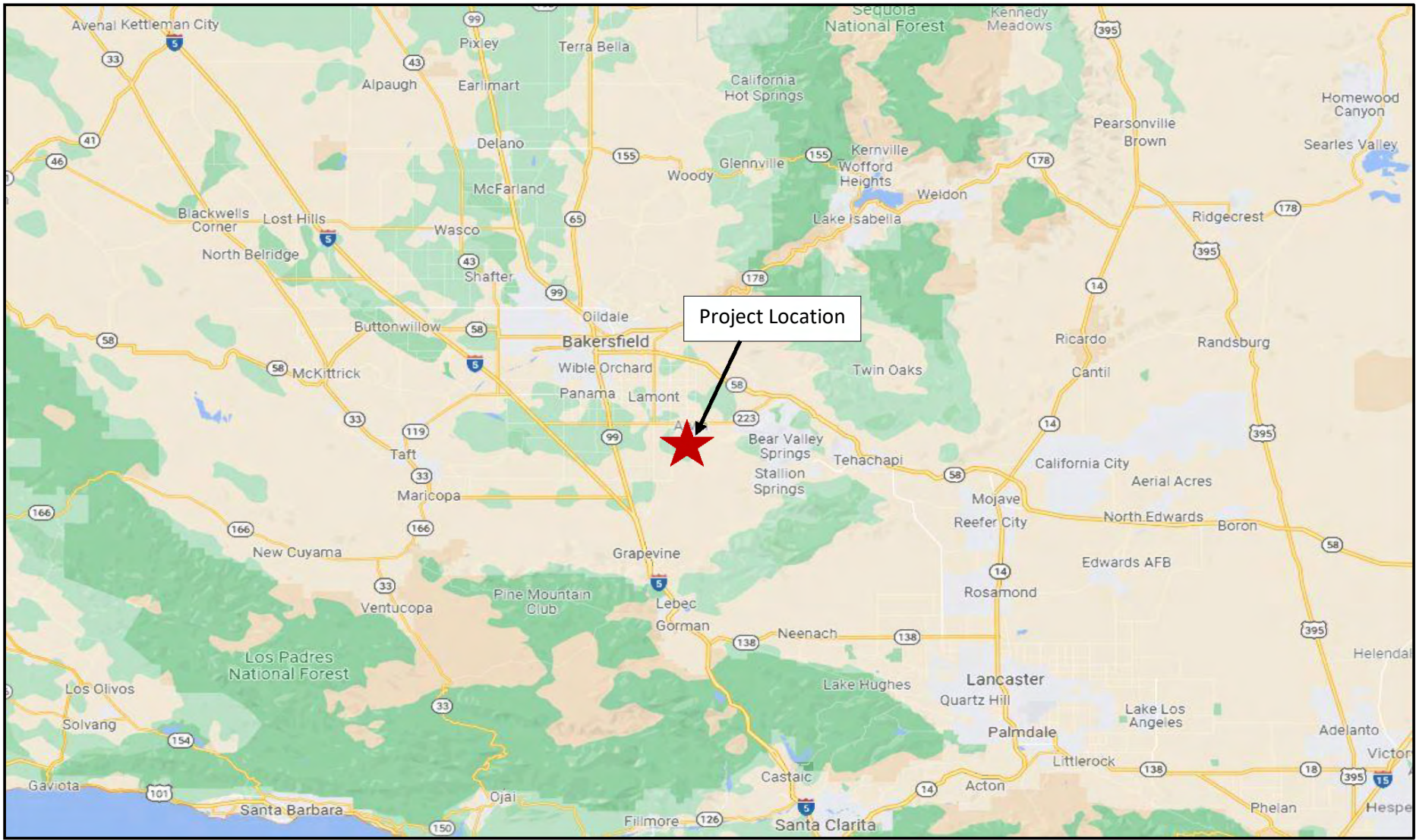
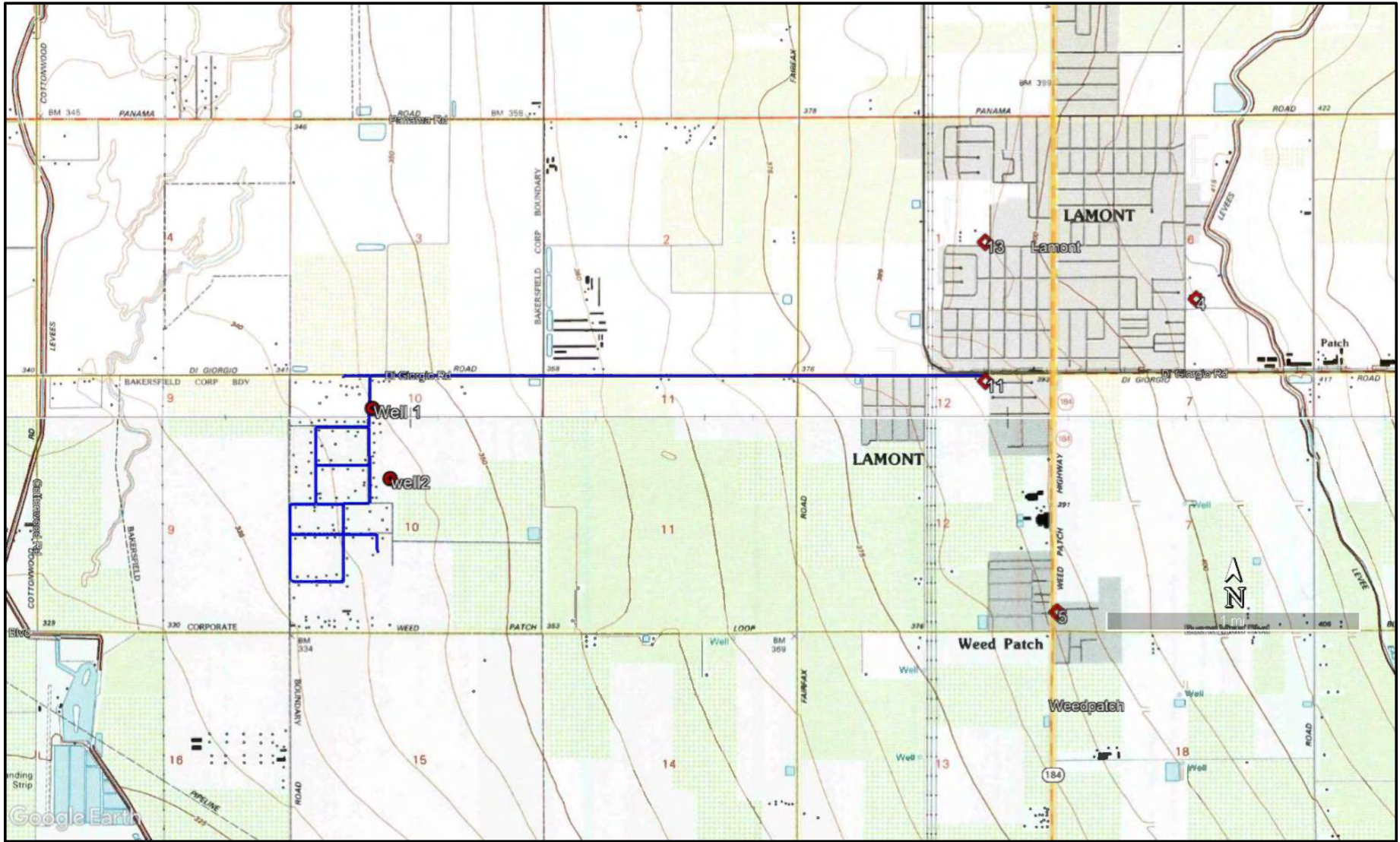


Figure 1 - Regional Vicinity Map
 LPUC Water Supply Improvement Project





SOURCE: USGS

FIGURE 2



Topographic Map of Project Location
 LPUC Water Supply Improvements Project





SOURCE: Google Earth

FIGURE 3



Aerial Photograph of Site Location
LPUD Water Supply Improvements Project



Table 1: State and Federally Listed Species Occurrence Potential within the Project Area

Scientific Name	Common Name	Federal/ State Listing Status	Habitat	Occurrence Potential
<i>Arizona elegans occidentalis</i>	California glossy snake	None/None	Inhabits arid scrub, rocky washes, grasslands, chaparral. Appears to prefer microhabitats of open areas and areas with soil loose enough for easy burrowing.	The Project area is developed with residential parcel most of which have livestock, small garden orchards, and manufactured landscape. There are no suitable Habitat for this species in the Project area. Occurrence potential is low.
<i>Athene cunicularia</i>	Burrowing owl	None/None	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	There is some marginally suitable habitat for this species in the Project Area but no evidence of BUOW was found in the survey area and most of the Subject Parcel is not suitable to support this species. Occurrence potential is low.
<i>Atriplex tularensis</i>	Bakersfield smallscale	None/Endangered	The plants are endemic to the alkali soils of the local occasionally flooded salt pan.	The Project area is developed with residential parcel most of which have livestock, small garden orchards, and manufactured landscape. There is no suitable habitat for this species in the Project area. Further, this species was known from only a few occurrences, and is potentially extinct. Occurrence potential is zero.
<i>Astragalus hornii var hornii</i>	Horn's milk-vetch	None/Endangered	Salty flats, lake shores; Elevation: 60--300 m. Bioregional Distribution: Flowering Time: May--Sep	There are no suitable habitat for this species in the Project area. Occurrence potential is zero
<i>Buteo swainsoni</i>	Swainson's hawk	None/ Threatened	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Although there is some suitable foraging habitat for this species within the Project area, there is no suitable nesting habitat within the Project area. Occurrence potential is low .

Scientific Name	Common Name	Federal/ State Listing Status	Habitat	Occurrence Potential
<i>Chloropyron mole ssp. Hispidum</i>	Hispid salty bird's-beak	None/None	Soft bird's-beak grows in coastal salt marshes, commonly in the marsh/upland transition zone with pickleweed (<i>Salicornia virginica</i>), jaumea (<i>Jaumea carnosa</i>), alkali heath (<i>Frankenia salina</i>), gumplant (<i>Grindelia stricta</i>), and saltgrass (<i>Distichlis spicata</i>). Habitats include seasonally flooded areas in hypersaline or euryhaline environments (CDWR 1996). A natural hydrologic connection to a tidal slough system is an important habitat requirement for this species. Diked seasonal wetlands which are isolated from natural, year round tidal cycle hydrology do not appear to support this species	There is no suitable habitat for this species in the Project area. Occurrence potential is zero
<i>Eumops perotis californicus</i>	Western mastiff	None/None	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	There are no suitable roosting sites for this species on the Project area. Occurrence potential is low.
<i>Gambelia sila</i>	blunt-nosed leopard lizard	Endangered/Endangered	Resident of sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief. Seeks cover in mammal burrows, under shrubs or structures such as fence posts; they do not excavate their own burrows.	No suitable habitat for this species exists within the Project area, Occurrence potential is zero.
<i>Layia leucopappa</i>	Comanche Point layia	None/None	An annual wildflower is endemic to California, where it is known only from the Tehachapi Mountains of southern Kern County in the vicinity of Tejon Ranch. Its distribution once extended onto the floor of the Central Valley, but it was eliminated from the area as the valley land was claimed for agriculture.	The species is presumed extirpated from the area. Further the Project area is developed with residential parcel most of which have livestock, small garden orchards, and manufactured landscape. There is no suitable habitat for this species in the Project area. Occurrence potential is zero.

Scientific Name	Common Name	Federal/ State Listing Status	Habitat	Occurrence Potential
<i>Lytta moestan</i>	Morrison's blister beetle	None/None	Information on this species is sparse, but some beetles were collected on filaree (<i>Erodium cicutarium</i>) Range/distribution These beetles are found in the Central Valley from Contra Costa County in the north to Tulare and Kern counties in the south.	The Project area is developed with residential parcel most of which have livestock, small garden orchards, and manufactured landscape. Occurrence potential is low.
<i>Navarretia setiloba</i>	Piute Mountains navarretia	None/None	The plant is endemic to California, where it is known from fewer than ten occurrences at the southern tip of the Sierra Nevada, Tehachapi Mountains, San Emigdio Mountains, and adjacent southern San Joaquin Valley, primarily within Kern County, California. It is named for Piute Mountain in the Southern Sierra near Lake Isabella, not the Piute Mountains of the Mojave Desert, which are far outside its range. It grows in moist depressions in grassland, oak woodland, and pinyon-juniper woodland habitats, from 500–2,100 metres (1,600–6,900 ft) in elevation	The project occurs outside the range for this specie There is no suitable habitat for this species in the Project area. Occurrence potential is zero
<i>Opuntia basilaris</i> var. <i>treleasei</i>	Bakersfield	Endangered/ Endangered	Sandy soil in the grasslands of Kern County. Plants spread to thickets as wide as 10 meters. The type locality was given as "Caliente, in the Tehachapi Mountains" (Coulter 1896, p. 434), which is in Kern County. Shortly thereafter, Toumey (1901) renamed Bakersfield cactus as a variety of beavertail cactus (<i>Opuntia basilaris</i>), resulting in the combination <i>O. basilaris</i> var. <i>treleasei</i> . Griffiths and Hare (1906) considered Bakersfield cactus a distinct species and subdivided it into two varieties, <i>O. treleasei</i> var. <i>treleasei</i> and var. <i>kernii</i> .	The Project area is developed with residential parcel most of which have livestock, small garden orchards, and manufactured landscape. There are no sandy open grasslands occurring within the Project area. Occurrence potential is low.

Scientific Name	Common Name	Federal/ State Listing Status	Habitat	Occurrence Potential
<i>Taxidea taxus</i>	American badger	None/None	Occurs primarily in grasslands, parklands, farms, and other treeless areas with friable soil and a supply of rodent prey [1,6]. They are also found in forest glades and meadows, marshes, brushy areas, hot deserts, and mountain meadows.	The Project area is developed with residential parcel most of which have livestock, small garden orchards, and manufactured landscape. There are no open areas for this species on the Project area. Occurrence potential is low.
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	Endangered/Threatened	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.	The Project area is developed with residential parcel most of which have livestock, small garden orchards, and manufactured landscape. There are no suitable burrowing or foraging habitat within the Project area. Occurrence potential is low.

Site Photos



Photo 1. Looking
Well 5
Replacement Site



Photo 2. Well 13
Replacement Site.



Photo 3. Well 11 Replacement Site.



Photo 4. Well 4 Replacement Site. No Access, however it is a developed horse property



Photo 5. East
along Di Giorgio
Road



Photo 6. Looking
S along
Alderwood
Street.



Photo 7. Looking N Brent and Colene.



Photo 8. Typical View of Proposed Water line areas.

**IPaC List and CNDDDB and
CNPSEI Results**

IPaC resource list

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

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

Location

Kern County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📅 (916) 414-6713

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

Endangered species

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

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

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

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

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

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

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

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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

Mammals

NAME	STATUS
<p>San Joaquin Kit Fox <i>Vulpes macrotis mutica</i></p> <p>Wherever found</p> <p>No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2873</p>	Endangered

<p>Tipton Kangaroo Rat <i>Dipodomys nitratoide nitratoide</i></p> <p>Wherever found</p> <p>No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7247</p>	Endangered
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Birds

NAME	STATUS
<p>California Condor <i>Gymnogyps californianus</i></p> <p>There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/8193</p>	Endangered

<p>Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i></p> <p>Wherever found</p> <p>There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/6749</p>	Endangered
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Reptiles

NAME	STATUS
<p>Blunt-nosed Leopard Lizard <i>Gambelia silus</i></p> <p>Wherever found</p> <p>No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/625</p>	Endangered

<p>Giant Garter Snake <i>Thamnophis gigas</i></p> <p>Wherever found</p> <p>No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482</p>	Threatened
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Amphibians

NAME	STATUS
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California Red-legged Frog *Rana draytonii* Threatened

Wherever found

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

<https://ecos.fws.gov/ecp/species/2891>

Fishes

NAME

STATUS

Delta Smelt *Hypomesus transpacificus* Threatened

Wherever found

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

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

Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus* Candidate

Wherever found

No critical habitat has been designated for this species.

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

Crustaceans

NAME

STATUS

Vernal Pool Fairy Shrimp *Branchinecta lynchi* Threatened

Wherever found

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

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

Flowering Plants

NAME

STATUS

Bakersfield Cactus *Opuntia treleasei* Endangered

Wherever found

No critical habitat has been designated for this species.

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

Critical habitats

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

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

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

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

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

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

THERE ARE NO MIGRATORY BIRDS OF CONSERVATION CONCERN EXPECTED TO OCCUR AT THIS LOCATION.

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

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

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

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

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

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

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

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

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

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

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

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

Data exclusions

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

Data precautions

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



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Query Criteria: Quad> IS >(Lamont (3511838))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Arizona elegans occidentalis</i> California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
<i>Astragalus hornii</i> var. <i>hornii</i> Horn's milk-vetch	PDFAB0F421	None	None	GUT1	S1	1B.1
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Atriplex tularensis</i> Bakersfield smallscale	PDCHE04240	None	Endangered	GX	SX	1A
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>Chloropyron molle</i> ssp. <i>hispidum</i> hispid salty bird's-beak	PDSCR0J0D1	None	None	G2T1	S1	1B.1
<i>Eumops perotis californicus</i> western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
<i>Gambelia sila</i> blunt-nosed leopard lizard	ARACF07010	Endangered	Endangered	G1	S1	FP
<i>Layia leucopappa</i> Comanche Point layia	PDAST5N0A0	None	None	G1	S1	1B.1
<i>Lytta moesta</i> moestan blister beetle	IICOL4C020	None	None	G2	S2	
<i>Lytta morrisoni</i> Morrison's blister beetle	IICOL4C040	None	None	G1G2	S1S2	
<i>Navarretia setiloba</i> Piute Mountains navarretia	PDPLM0C0S0	None	None	G2	S2	1B.1
<i>Opuntia basilaris</i> var. <i>treleasei</i> Bakersfield cactus	PDCAC0D055	Endangered	Endangered	G5T1	S1	1B.1
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Valley Saltbush Scrub</i> Valley Saltbush Scrub	CTT36220CA	None	None	G2	S2.1	
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S2	

Record Count: 16

APPENDIX 5

IDENTIFICATION AND EVALUATION OF HISTORIC PROPERTIES

**LAMONT PUBLIC UTILITIES DISTRICT
WATER SUPPLY IMPROVEMENT PROJECT**

**Lamont Area
Kern County, California**

For Submittal to:

Lamont Public Utilities District
8624 Segrue Road
Lamont, CA 92341

and

Division of Drinking Water
State Water Resources Control Board
1001 I Street/P.O. Box 944212
Sacramento, CA 94244

Prepared for:

Tom Dodson & Associates
2150 North Arrowhead Avenue
San Bernardino, CA 92405

Prepared by:

CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324

Bai “Tom” Tang, Principal Investigator
Michael Hogan, Principal Investigator

February 14, 2022
CRM TECH Contract No. 3783

Title: Identification and Evaluation of Historic Properties: Lamont Public Utilities District Water Supply Improvement Project, Lamont Area, Kern County, California

Author(s): Bai “Tom” Tang, Principal Investigator/Historian
Deirdre Encarnación, Archaeologist/Report Writer
Nina Gallardo, Archaeologist/Native American Liaison

Consulting Firm: CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324
(909) 824-6400

Date: February 14, 2022

For Submittal to: Lamont Public Utilities District
8624 Segrue Road
Lamont, CA 92341
(661) 845-1213
and
Division of Drinking Water
State Water Resources Control Board
1001 I Street/P.O. Box 944212
Sacramento, CA 95814
(916) 341-5057

Prepared for: Tom Dodson, President
Tom Dodson & Associates
2150 North Arrowhead Avenue
San Bernardino, CA 92405
(909) 882-3612

USGS Quadrangle: Lamont and Weed Patch, Calif., 7.5’ quadrangles (Sections 1-3 and 9-12, T31S R28E, and Sections 6 and 7, T31S R29E, Mount Diablo Baseline and Meridian)

Project Size: Four well sites totaling 3.87 acres and approximately 30,000 linear feet of pipeline rights-of-way

Keywords: Southern San Joaquin Valley; Phase I historical/archaeological resources survey; no “historic properties” or “historical resources” affected

EXECUTIVE SUMMARY

Between September 2021 and February 2022, at the request of Tom Dodson & Associates, CRM TECH performed a cultural resources study on the Area of Potential Effects (APE) for the proposed Lamont Public Utilities District (LPUD) Water Supply Improvement Project in and near the unincorporated community of Lamont, Kern County, California. The project entails mainly the construction of four new water wells to replace four contaminated wells, which will be abandoned along with associated equipment such as reservoir tanks and booster stations. As a part of the project proposal, the El Adobe Property Owners Association would be incorporated into the LPUD service area, which would require the installation of a total of approximately 30,000 linear feet of pipelines, including a 10-inch water transmission main line along Di Giorgio Road and 8-inch distribution lines from the main line to individual residences.

The APE for the project encompasses the maximum extent of ground disturbance required during construction. Horizontally, it consists of the rights-of-way for the new water transmission main line and the distribution lines as well as the four replacement well sites listed below:

- Well No. 13: approximately 1.6 acres at the northwest corner of San Diego Street and Hall Road (Assessor's Parcel No. [APN] 186-080-05);
- Well No. 11: approximately 1.0 acre on the south side of Di Giorgio Road and to the west of Main Street (a.k.a. Weedpatch Highway/State Route 184; a part of APN 187-030-04);
- Well No. 5: approximately 0.27 acre at the southeast corner of Maxey Drive and Main Street (APN 188-290-32);
- Fourth potential well site: approximately 1.0 acre located to the east of Habecker Road and north of the extension of Segrue Road (a part of APN 188-250-30).

Collectively, the four well sites measure approximately 3.87 acres in total. The vertical extent of the APE, represented by the maximum depth of disturbance, is anticipated to be five to ten feet below surface along the pipeline alignments and up to 900 feet at the well sites. The various portions of the noncontiguous APE are scattered across the town of Lamont and to the west of the town, within Sections 1-3 and 9-12 of Township 31 South Range 28 East and Sections 6 and 7 of Township 31 South Range 29 East, Mount Diablo Baseline and Meridian, as depicted in the United States Geological Survey Lamont and Weed Patch, Calif., 7.5' quadrangles.

This technical study is a part of the environmental review process required for the project by the lead agency, namely the LPUD, in compliance with the California Environmental Quality Act (CEQA). As the project may involve federal funding administered by the State Water Resources Control Board (SWRCB), it is considered a federal "undertaking" subject to Section 106 of the National Historic Preservation Act (NHPA) as well. The purpose of the study is to provide the LPUD and the SWRCB with the necessary information and analysis to determine whether the undertaking would have an adverse effect on any "historic properties," as defined by 36 CFR 800.16(l), or "historical resources," as defined by Calif. PRC §5020.1(j), that may exist within the APE.

In order to accomplish this objective, CRM TECH initiated a cultural resources records search, pursued historical and geoarchaeological background research, contacted Native American representatives, and carried out a systematic field survey of the entire APE. Throughout the course of these research procedures, no “historic properties” or “historical resources” were encountered within the APE, and the extensively disturbed subsurface sediments in the vertical extent of the APE appear to be relatively low in sensitivity for potentially significant archaeological remains of prehistoric or early historical origin.

Based on these findings, and pursuant to 36 CFR 800.4(d)(1) and Calif. PRC §21084.1, CRM TECH recommends to the LPUD and the SWRCB a conclusion that the proposed undertaking would have *No Effect* on any “historic properties” or “historical resources.” No further cultural resources investigation will be necessary for the undertaking unless project plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are discovered during earth-moving operations associated with the undertaking, all work in the immediate area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the find.

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INTRODUCTION

Between September 2021 and February 2022, at the request of Tom Dodson & Associates, CRM TECH performed a cultural resources study on the Area of Potential Effects (APE) for the proposed Lamont Public Utilities District (LPUD) Water Supply Improvement Project in and near the unincorporated community of Lamont, Kern County, California (Fig. 1). The project entails mainly the construction of four new water wells to replace four contaminated wells, which will be abandoned along with associated equipment such as reservoir tanks and booster stations. As a part of the project proposal, the El Adobe Property Owners Association would be incorporated into the LPUD service area, which would require the installation of a total of approximately 30,000 linear feet of pipelines, including a 10-inch water transmission main line along Di Giorgio Road and 8-inch distribution lines from the main line to individual residences.

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- Well No. 5: approximately 0.27 acre at the southeast corner of Maxey Drive and Main Street (APN 188-290-32);

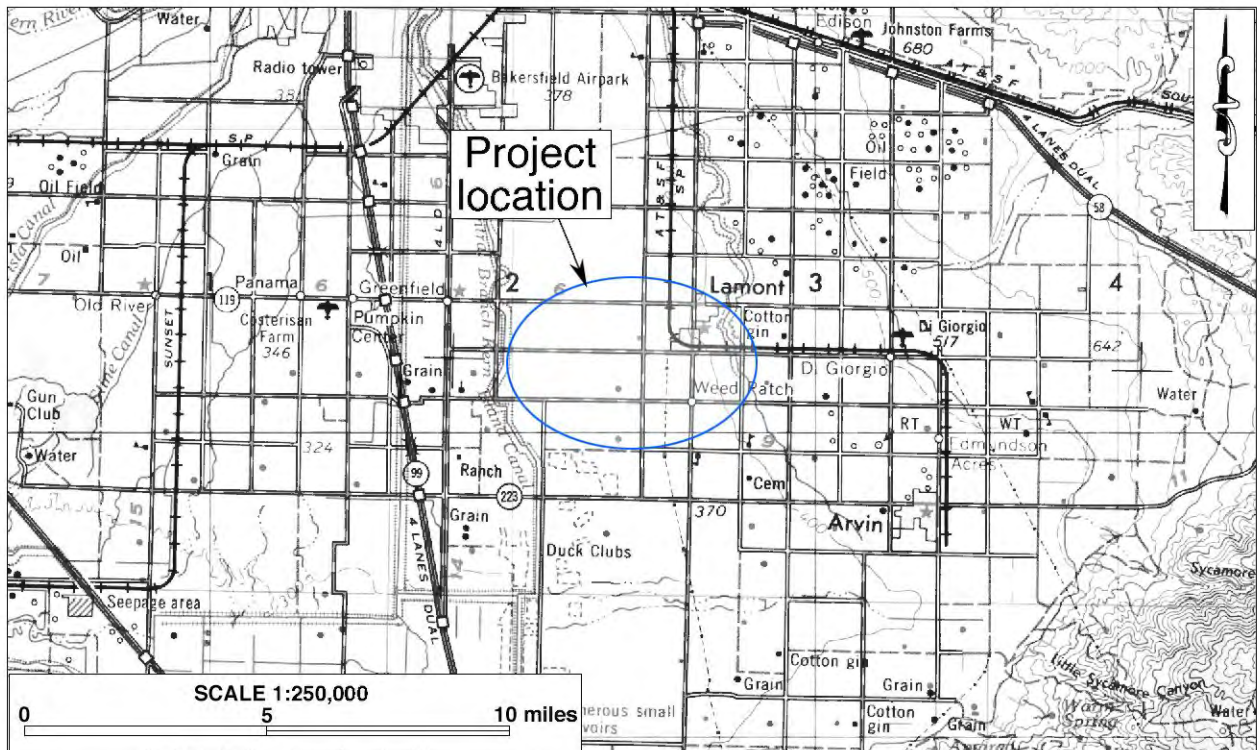


Figure 1. Project vicinity. (Based on USGS Bakersfield, Calif., 120'x60' quadrangle [USGS 1971])

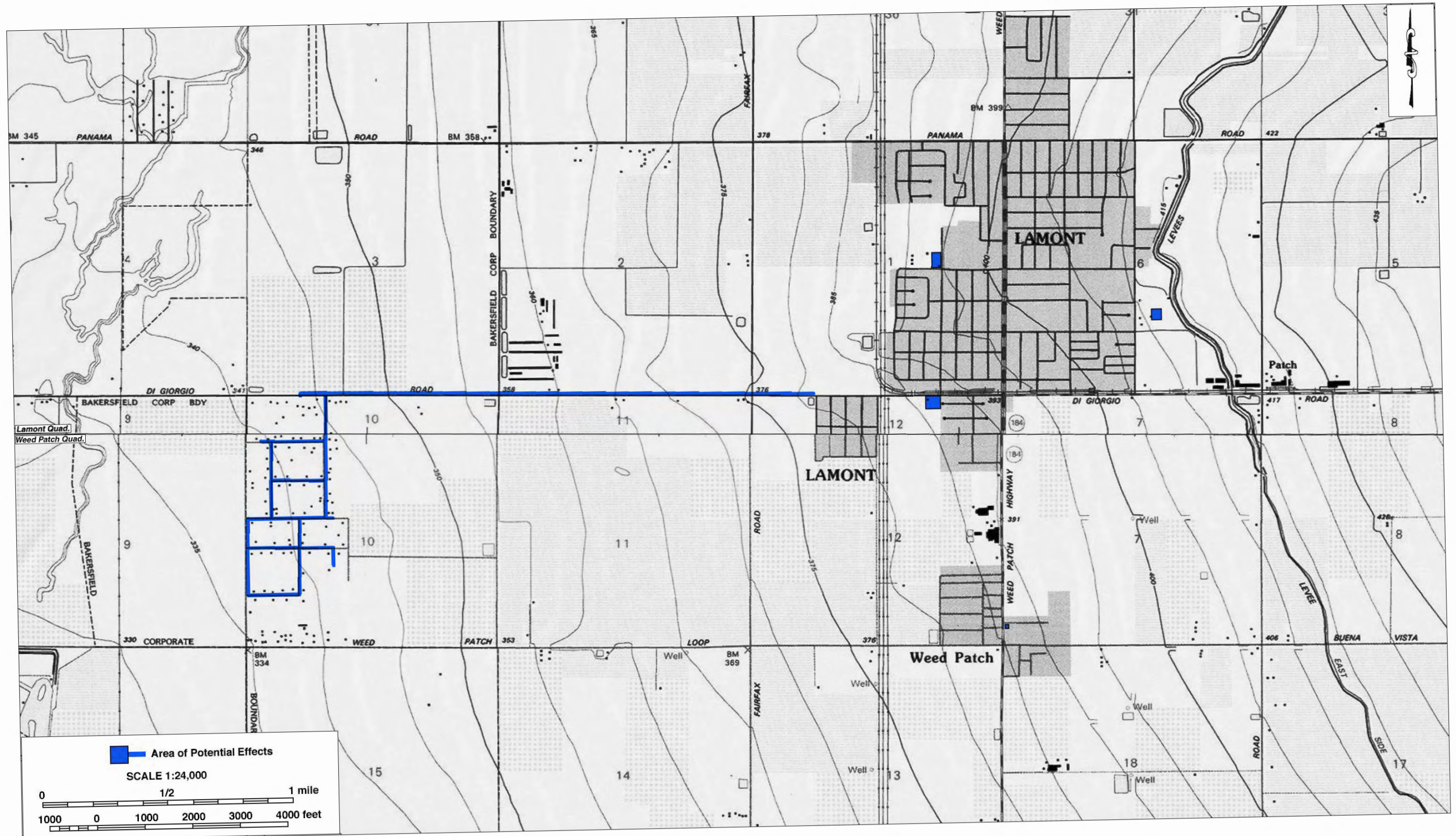


Figure 2. Project location. (Based on Lamont and Weed Patch, Calif., 7.5' quadrangles [USGS 1992a; 1992b])

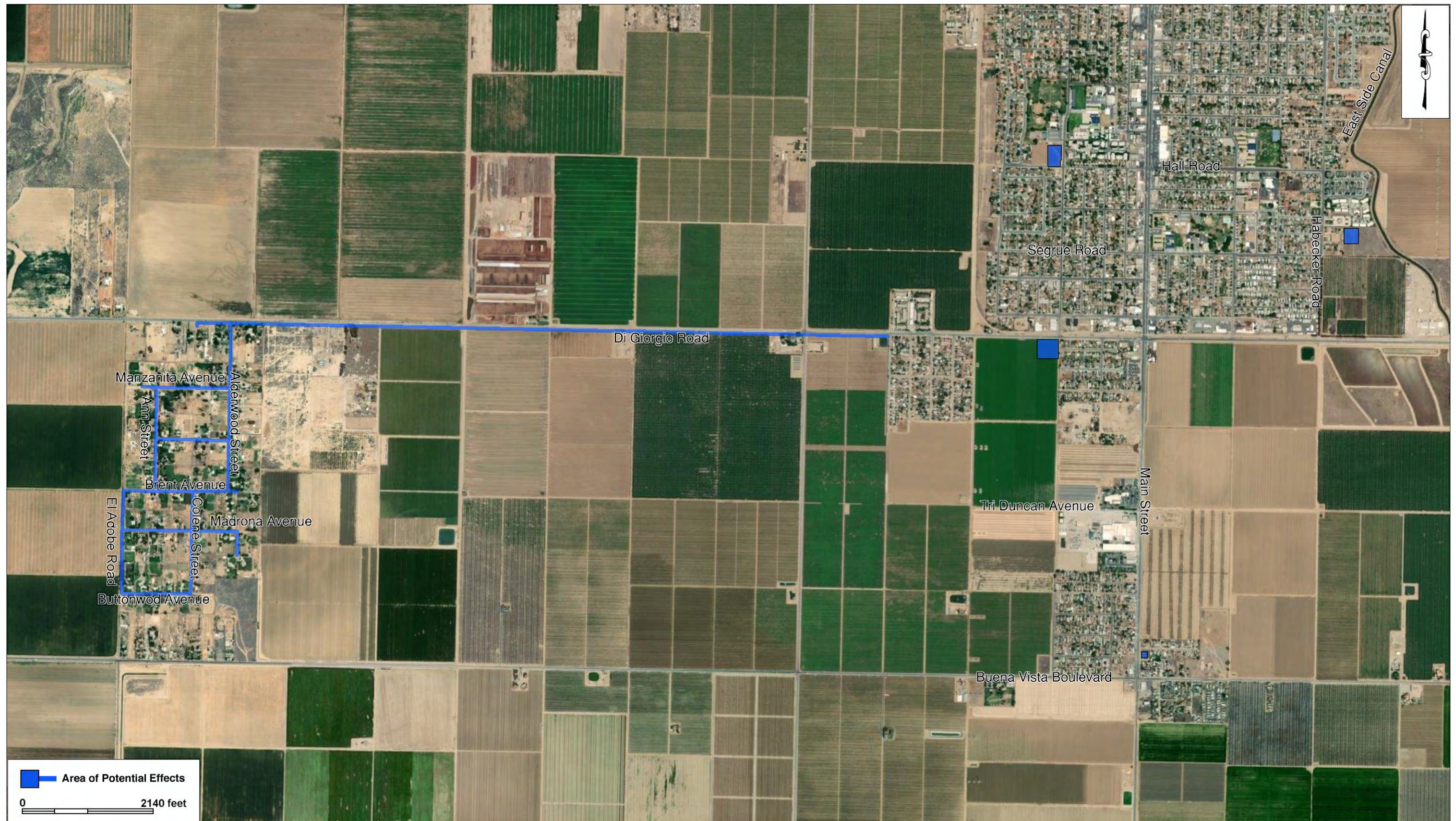


Figure 3. Recent satellite image of the APE. (Based on Google Earth imagery [Google Earth 2020])

- Fourth potential well site: approximately 1.0 acre located to the east of Habecker Road and north of the extension of Segrue Road (a part of APN 188-250-30).

Collectively, the four well sites measure approximately 3.87 acres in total. The vertical extent of the APE, represented by the maximum depth of disturbance, is anticipated to be five to ten feet below surface along the pipeline alignments and up to 900 feet at the well sites. The various portions of the noncontiguous APE are scattered across the town of Lamont and to the west of the town, within Sections 1-3 and 9-12 of Township 31 South Range 28 East and Sections 6 and 7 of Township 31 South Range 29 East, Mount Diablo Baseline and Meridian, as depicted in the United States Geological Survey (USGS) Lamont and Weed Patch, Calif., 7.5' quadrangles (Figs. 2, 3).

This technical study is a part of the environmental review process required for the project by the lead agency, namely the LPUD, in compliance with the California Environmental Quality Act (CEQA). As the project may involve federal funding administered by the State Water Resources Control Board (SWRCB), it is considered a federal "undertaking" subject to Section 106 of the National Historic Preservation Act (NHPA) as well. The purpose of the study is to provide the LPUD and the SWRCB with the necessary information and analysis to determine whether the undertaking would have an adverse effect on any "historic properties," as defined by 36 CFR 800.16(l), or "historical resources," as defined by Calif. PRC §5020.1(j), that may exist within the APE.

In order to accomplish this objective, CRM TECH initiated a cultural resources records search, pursued historical and geoarchaeological background research, contacted Native American representatives, and carried out a systematic field survey of the entire APE. The following report is a complete account of the methods and results of the various avenues of research and the final conclusion of the study. Personnel who participated in the study are named in the appropriate sections, and their qualifications are provided in Appendix 1.

SETTING

CURRENT NATURAL SETTING

The Lamont area is located in the San Joaquin Valley, which constitutes the southern end of the Great Valley geomorphic province. The Great Valley province is an alluvial plain, roughly 50 miles wide and 400 miles long, lying between the Coast Ranges on the west and the Sierra Nevada on the east (Jenkins 1980). The region features a semi-arid climate, with summer highs occasionally reaching over 110°F and winter lows at times dipping below 30°F. Annual precipitation averages around 6.5 inches, occurring mostly during winter and spring. Despite the low rainfall and the current dry appearance, the region had featured lakes, sloughs, rivers, and marshland prior to the creation of the system of irrigation canals, flood control works, and dam-type reservoirs now in place.

Situated mostly in an agrarian setting, the APE consists of four well sites and pipeline alignments connecting a group of residences in the El Adobe Property Owners Association to the existing LPUD service area, as discussed above. The Well No. 5 replacement site is currently overgrown with dry ruderal grasses, dead vegetation, and low-lying scrub such as jimsonweed (Fig. 4). Ground



Figure 4. Typical landscapes in the APE. *Clockwise from top left:* Well No. 5 replacement site, view to the northeast; Well No. 13 replacement site, view to the southwest; pipeline route in the El Adobe Property Owners Association residential neighborhood, view to the north along Colene Street; water main line route along Di Giorgio Road, view to the west. (Photographs taken on October 20, 2021)

surface has been disturbed by road intrusion and refuse dumping, especially along the western and eastern boundaries. The existing Well No. 5 to be abandoned is situated adjacent to the southern boundary of the replacement site.

Similar to the Well No. 5 site, the fourth potential well site has a relatively thick cover of dry ruderal grasses and tumbleweeds, apparently the site of a former agricultural field. Landscaping waste and household refuse has been dumped along the western and northern boundaries. The Well No. 11 replacement site consists of a recently plowed and cleared agricultural field, where no vegetation was present at the time of this survey. The Well No. 13 replacement site is currently occupied by a recently excavated earthen reservoir in the northern half (Fig. 4). A wooden fence approximately 25-30 feet tall surrounds the southern portion of this well site, obstructing vision of much of the ground surface there (Fig. 4).

The water transmission main line will extend west along Di Giorgio Road from the Well No. 11 replacement site to the intersection of Alderwood Street, and the distribution lines will loop through various streets in the El Adobe neighborhood to as far south as Buttonwood Avenue (Fig. 3). The neighborhood is rural in character, with DiGiorgio Road serving as the main thoroughfare for the community (Fig. 4). The area along the project alignments retains little vestige of its native landscape, and the surface and near-surface soils have been extensively disturbed by past agricultural use, road construction, underground utility installation, and nearby development. Elevations in the

APE range around 335 to 350 feet above mean sea level, and the terrain is generally level with a slight incline to the northeast. The existing vegetation consists primarily of introduced landscaping plants and invasive weeds.

CULTURAL SETTING

Archaeological Context

The earliest evidence of human occupation in the southern San Joaquin Valley, discovered at the Witt locality at Tulare Lake and published by West et al. in 1991, included some of the earliest human skeletal materials in North America (Garfinkel 2015:3). Uranium-thorium testing at the Witt locality resulted in uncalibrated dates of 11,379, 11,380, and 15,802 years before the present (B.P.; *ibid.*). The Tulare Lake area has been documented as one of the richest Paleoindian localities in the State of California (*ibid.*).

The cultural history of the region has been summarized into several chronologies, integrating available archaeological data from many studies conducted in the southern Sierra Nevada. The prehistory of the greater southern San Joaquin Valley has been the focus of McGuire and Garfinkel (1980), whose work has been utilized to create prehistoric phases for the region from 4000 B.C. to present times (Moratto 1984:333; Getchell and Atwood 2009:6). More recently, the following general framework proposes three primary periods, based on Garfinkel (2015), although the beginning and ending dates of the recognized cultural horizons vary among different parts of the region:

- Paleoindian Period (ca. 16,000-8,550 B.P.): Native peoples of this period created fluted spearhead bases designed to be hafted to wooden shafts, possibly indicative of hunting now-extinct megafauna. The distinctive method of thinning bifaces and spearhead preforms by removing long, linear flakes left diagnostic Paleoindian markers at tool-making sites. Other artifacts associated with the Paleoindian toolkit include choppers, cutting tools, retouched flakes, and perforators. Sites from this period are very rare, and most are deeply buried.
- Archaic Period (ca. 8,550 B.P.-1000 A.D.): Archaic sites are characterized by abundant lithic scatters of considerable size with many biface thinning flakes, bifacial preforms broken during manufacture, and well-made groundstone bowls and basin metates. Diverse architectural features such as house floors and significant deposits of refuse materials reflect both land- and water-associated subsistence activities. Cultural materials from the Archaic Period include temporally diagnostic forms of beads and ornaments manufactured from *Haliotis* and *Olivella* shells. Spindle-shaped charmstones are also found. The Archaic Period can be further broken down into lower, middle, and upper phases.
- Emergent Period (ca. 1000-1776 A.D.): Sites from this period typically contain lithic scatters from the manufacture of small arrow points, expedient groundstone tools such as tabular metates and unshaped manos, wooden mortars with stone pestles, acorn or mesquite bean granaries, ceramic vessels, shell beads suggestive of extensive trading networks, and steatite implements such as pipes and arrow shaft straighteners. The bow and arrow replace the dart and atlatl at sites from the Emergent Period. Specialized sites of local shell bead manufacturing are recognized by the presence of bead blanks and manufacturing debris, a pattern that might indicate the introduction of monetized systems of exchange.

Ethnohistoric Context

The present-day Lamont area is generally considered a part of the traditional homeland of the Southern Valley Yokuts. The name “Yokuts” comes from the Native word *yokoch*, which translates to “people” or “person,” and the language family is of Penutian stock (Silverstein 1978:446; Heizer and Elsasser 1980:15-16). Within the larger Yokuts group were three divisions, 12 major language groups, and roughly 50 distinct bands, each with its own name, dialect, and territory (Heizer and Elsasser 1980:15-16). Prior to European contact, population numbers for the entire Yokuts tribal group is estimated to have been around 70,000 people (*ibid.*:16). The following discussion of the culture and history of the Southern Valley Yokuts, one of three main Yokuts divisions, is drawn primarily from Wallace (1978), Heizer and Elsasser (1980), and Anderson (2005).

The APE is situated within what would have been the overlapping territories of the Yawelmani and Hometwoli bands of the Southern Valley Yokuts (Wallace 1978:448). Southern Valley Yokuts territory spanned the drainage area of the Tulare, Buena Vista, and Kern Lakes as well as the lower portions of the Kings, Kaweah, Tule, and Kern Rivers. The presence of these waterways and their surrounding sloughs and marshlands provided food, tool materials, and medicine as well as an aquatic travel corridor in what would otherwise have been a semi-desert environment with very little precipitation.

The subsistence strategy and material culture of the Southern Valley Yokuts were defined by the landscape of the southern San Joaquin Valley. As mentioned, the environment was marsh-like and held an abundance of resources. Tule reeds that grew along lake and river shores and in sloughs were utilized for food, boats, baskets, and shelter. Salmon and eel were speared or hunted from shore or from tule reed boats as they made their runs. Fish were also trapped in weirs of stones or willows and in scoop-shaped baskets. Waterfowl, including geese, brandt, and more than 20 varieties of duck, were present in large numbers, especially during seasonal migrations from October to April. Autumn saw the gathering of acorns from oaks in the foothills and was a preferred time to hunt rabbits, as their fur was thickening for winter. Winter weather promoted the gathering of basketry material from the bark of shrubs and trees, and wood for arrows before excessive moisture was pulled into the stalks or leaves sprouted.

Southern Valley Yokuts homes varied from single-family dwellings made of tule mats placed over a wooden frame to communal houses hosting ten families or so. Sweat lodges were utilized on a daily basis, for cleansing the body and for ritual purification. Basketry was an important skill, and tightly woven twined baskets were used as food and water storage vessels as well as traps, winnowing trays, seed beaters, and hats. Other material culture included hunting implements such as nets, traps, snares, throwing sticks, and bows and arrows, and ritual items such as feather headdresses, rattles, and dice.

Contact with Europeans began as early as 1772, when Pedro Fages passed through the southern San Joaquin Valley, followed by Francisco Garcés in 1776, but the missions held little influence other than cultural practices brought by runaways fleeing them. Disruption began in earnest during the Mexican period, especially through an 1833 epidemic that killed around 75% of the native population. The annexation and statehood of California brought an influx of American settlers and the resulting displacement of the native peoples. By 1873, after partial removal to the Tejon Reservation, the Tule River Reservation was set aside for some of the remaining Native bands, while

others eventually were organized onto the Santa Rosa Rancheria in 1934. Today, many Southern Valley Yokuts continue to live in the surrounding area, both on and off the reservations and have experienced a revitalization of their cultural and linguistic heritage.

Historic Context

The early Spanish/Mexican explorations did not have much of an impact on the San Joaquin Valley beyond the diseases that they introduced to the Native population (Wallace 1978:459). The first American known to have explored the region was Joseph R. Walker, who entered the Kern River valley in 1834 and began guiding wagon trains through the area using the Walker Pass, which was named in his honor (Southern Sierra Properties n.d.). In the winter of 1845-1846, he led the expedition of artist Edward M. Kern into the area, for whom the Kern River, Kernville, and Kern County are named (*ibid.*).

According to local historical accounts, non-Indian settlement in the vicinity began in the early 1860s. Thomas Baker, the first Anglo-American to settle in the area, moved here from Vasalia in 1863 and acquired a large parcel of land in what is now Bakersfield with a plan to develop a navigable water way from Kern Lake (now dry) to the San Francisco Bay (Darling 1988:8; Gudde 1998:24). Baker's plan failed to materialize, but his name was bestowed on the newly formed community in 1868, when a post office was established. Like the rest of California's fertile Central Valley, the Bakersfield area experienced rapid early development in its agricultural economy, but relatively slow growth, in comparison to its southern neighbors, in terms of urbanization.

The nearby City of Bakersfield was first incorporated in 1873 and became the county seat the next year (Darling 1988:8). Two years later, the city was disincorporated, and was not reincorporated until 1898 (*ibid.*). Around the turn of the century, oil discoveries on the Kern River and the subsequent "oil boom" prompted the Bakersfield area to the forefront of California's budding petroleum industry. However, agriculture has remained the dominant factor in the area's economy as well as its cultural heritage to the present time.

The community of Lamont, located roughly five miles to the southeast of Bakersfield, was established near the end of the 19th century (Lamont School District n.d.). The area saw a population boom as Dust Bowl migrants flocked there in the 1930s looking for work as farm labor (*ibid.*). Among the notable episodes in Lamont history is the farm labor camp depicted in John Steinbeck's *Grapes of Wrath*, located in Weedpatch about a mile to the south (*ibid.*). At the time, the area was known in particular for its large-scale cultivation of guayule, which served as a substitute for rubber during WWII (*Bakersfield Californian* 2016). Today the community of Lamont remains true to its agricultural roots, with a population of almost exclusively Hispanic heritage providing the driving work force.

RESEARCH METHODS

RECORDS SEARCH

The historical/archaeological resources records search for this study was provided by the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information

System on October 13, 2021. Located on the campus of California State University, Bakersfield, the SSJVIC is the State of California's official cultural resource records repository for Kern County. During the records search, SSJVIC staff examined maps and records on file for previously identified cultural resources and existing cultural resources studies within a half-mile radius of the APE. Previously identified cultural resources include properties designated as California Historical Landmarks or Points of Historical Interest as well as those listed in the National Register of Historic Places, the California Register of Historical Resources, or the California Historical Resources Inventory.

HISTORICAL BACKGROUND RESEARCH

Historical background research for this study was conducted by CRM TECH principal investigator/historian Bai "Tom" Tang. Sources consulted during the research included the published literature in local and regional history, U.S. General Land Office (GLO) land survey plat maps dated 1855 and USGS topographic maps dated 1912-1992, and aerial/satellite photographs taken in 1952-2020. The historical maps are accessible at the websites of the U.S. Bureau of Land Management and the USGS, while the aerial/satellite photographs are available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software.

GEOARCHAEOLOGICAL ANALYSIS

As a part of the research procedures, CRM TECH archaeologist Deirdre Encarnación pursued geoarchaeological analysis to assess the APE's potential for the deposition and preservation of subsurface cultural deposits from the prehistoric period, which cannot be detected through a standard surface archaeological survey. Sources consulted for this purpose included primarily geologic maps and literature pertaining to the surrounding area. Findings from these sources were used to develop a geomorphologic history of the APE and address geoarchaeological sensitivity of the vertical APE.

NATIVE AMERICAN PARTICIPATION

On September 28, 2021, CRM TECH submitted a written request to the State of California Native American Heritage Commission (NAHC) for a records search in the commission's Sacred Lands File. Following the NAHC's recommendations and previously established consultation protocol, CRM TECH further contacted seven Native American representatives in the region in writing on November 1, 2021, for additional information on potential Native American cultural resources in the vicinity. Follow-up telephone solicitations were then carried out between November 17, 2021, and January 4, 2022. Correspondence between CRM TECH and the Native American representatives is summarized below, and a complete record is attached to this report in Appendix 2.

FIELD SURVEY

On October 20, 2021, CRM TECH archaeologist Nina Gallardo carried out the field survey of the APE. The four well sites were surveyed on foot at an intensive-level by walking a series of parallel transects spaced 15-meters (approximately 50 feet) apart. A reconnaissance-level survey was conducted along the pipeline alignments, as they consist entirely of existing public roadways, by driving along the project routes and visually inspecting the surrounding land. In this way, the entire

APE was systematically and carefully examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years or older). Visibility of the native ground surface was poor at Well No. 5 and the fourth potential well site, where pockets of dense vegetation growth obscured the ground, as well as at within the tall fence at Well No. 13 and along paved roads, where asphalt covered the ground surface. Elsewhere, the visibility was good to excellent.

RESULTS AND FINDINGS

RECORDS SEARCH

According to SSJVIC records, the APE had not been surveyed systematically for cultural resources prior to this study, and no cultural resources had been recorded within or adjacent to the APE boundaries. Within the half-mile scope of the records search, SSJVIC records identify at least 23 previous studies carried out between 1974 and 2014 on various tracts of land and linear features. These studies resulted in the recordation of 16 cultural resources within the half-mile radius, as listed below in Table 1.

Table 1. Previously Recorded Cultural Resources within the Scope of the Records Search	
Primary No.	Description
15-008459	Historic-period building (no further detail available)
15-008460	Alice Carpenter residence
15-008461	Historic-period building (no further detail available)
15-008465	Historic-period building (Lamont Elementary School?)
15-008466	Historic-period building (no further detail available)
15-008467	Historic-period building (no further detail available)
15-008470	Historic-period building (no further detail available)
15-008471	Historic-period building (no further detail available)
15-010024	Circa 1930 bungalow
15-010025	Lamont Elementary School
15-013724	Segment of East Side Canal
15-019115	SCE Big Creek East and West transmission line
15-020538	Segment of Buena Vista Boulevard
15-020545	Segment of DiGiorgio Road
15-020570	Segment of Panama Road
15-020577	SCE Third Saugus-Magunden transmission line

As Table 1 shows, all of these previously recorded cultural resources date to the historic period. Among them are ten buildings or groups of buildings, two power transmission lines, the East Side Canal, and segments of three roads, including a segment of Di Giorgio Road located to the east of the APE (Site 15-020545). According to the record forms, Di Giorgio Road was originally constructed in circa 1914-1931 (Urbana Preservation & Planning 2019:2). Despite its age, the road was found not to be eligible for listing in the National Register of Historic Places or the California Register of Historical Resources when it was recorded in 2019 (*ibid.*).

Although the segment of Di Giorgio Road previously recorded into the California Historical Resources Inventory lies well outside the APE, the segment within the APE is presumed to be an extension of Site 15-020545 for the purpose of this study. None of the other 15 sites were recorded

in the immediate vicinity of the APE. Therefore, none of them require further consideration during this study.

HISTORICAL BACKGROUND RESEARCH

Historical maps consulted for this study show no evidence of any settlement or development activities in the project vicinity in the 1850s, although two early roads, identified as Old Tejon Road and Tulare Valley Road, were noted within a mile to the west and the east of the APE, respectively (Fig. 5). In the early 20th century, the Lamont area demonstrated a typical rural settlement pattern, featuring widely spaced grids of roads lined by scattered buildings (Fig. 6). Among them was the forerunner of present-day Di Giorgio Road, which was partially present in the APE by 1910 and extended across the area by 1929, known then as Greenfield Road (Fig. 7).

Around 1930, the only notable feature known to be extant in the APE, other than Greenfield Road, was a water reservoir at the site of Well No. 11 (Fig. 7). Between then and the early 1950s, the town of Lamont began to take shape with a number of densely populated residential neighborhoods established near the APE (Fig. 8; NETR Online 1952). At least two buildings, presumably representing farmsteads, were observed at the sites of Well Nos. 11 and 13 in the 1950s (Fig. 8; NETR Online 1952; 1957). The El Adobe neighborhood was developed much later, during the 1968-1984 era (NETR Online 1968; 1984). Both of the buildings in the APE were evidently removed sometime between 1984 and 1992, after the removal of the reservoir at Well No. 11 in 1968-1984 (NETR Online 1968-1992; Google Earth 1992). Since then, no major changes in land use have been observed within the APE (NETR Online 1992-2018; Google Earth 1992-2020).

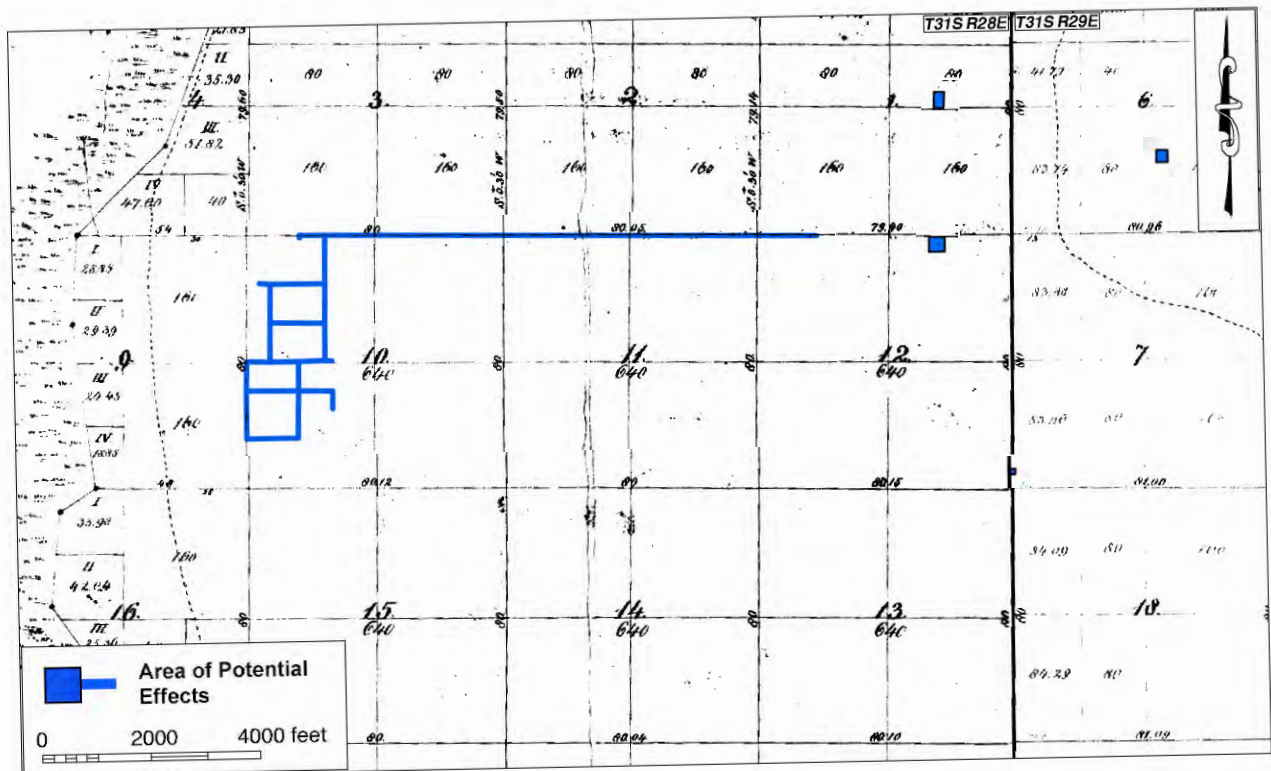


Figure 5. The APE and vicinity in 1855. (Source: GLO 1855a; 1855b)

GEOARCHAEOLOGICAL ANALYSIS

The surface sediments in and near the APE have been identified as *Qf*, defined as Recent alluvial fan deposits of the Great Valley formation (Smith 1964). These Quarternary-age deposits consist of sedimentary and metasedimentary rocks (*ibid.*). Fuller et al. (2015) state that the Great Valley formation contains Cretaceous and Cenozoic strata up to 20,000 to 40,000 feet thick, but they also date the surface sediments in and around the APE as Quarternary in age. These younger soils were formed as floodplain deposits and replenished during periodic large-scale flood events (*ibid.*).

As discussed above, the natural environment around the APE featured rivers, lakes, sloughs, and marshland until modern flood control works essentially put an end to the cyclical flooding that helped shape the landscape. Generally, in prehistoric times such environment would have been a favorable setting for resource procurement but not for long-term habitation. The records search identified no known prehistoric archaeological sites within a half-mile radius.

Furthermore, the entire APE lies upon extensively disturbed ground surface, the pipeline rights-of-way by road construction and underground utility installation and the well sites by past agricultural operations. Throughout the APE, no substantial remnants of the native landscape survive today (Fig. 4). Based on these considerations, the APE appears to be relatively low in sensitivity for intact, potentially significant archaeological remains of prehistoric or early historical origin in buried deposits.

NATIVE AMERICAN PARTICIPATION

In response to CRM TECH's inquiry, the NAHC stated in a letter dated October 29, 2021, that the Sacred Lands File identified no Native American cultural resources in the project vicinity but recommended that local Native American groups be contacted for further information. For that purpose, the NAHC provided a list of potential contacts in the region (see App. 2). Upon receiving the NAHC's reply, CRM TECH sought consultation with all seven tribal organizations on the referral list (see App. 2). For some of the tribes, the designated spokesperson on cultural resources issues was contacted in lieu of the individuals on the referral list, as recommended in the past by the tribal government staff. The seven tribal representatives contacted are listed below:

- Danelle Gutierrez, Tribal Historic Preservation Officer, Big Pine Paiute Tribe of Owens Valley;
- Julio Quair, Chairperson, Chumash Council of Bakersfield;

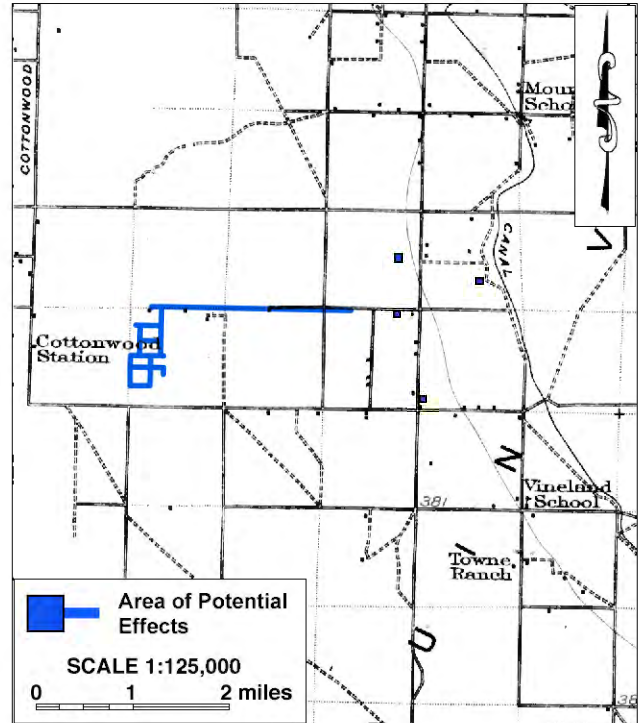


Figure 6. The APE and vicinity in 1910-1912. (Source: USGS 1912)

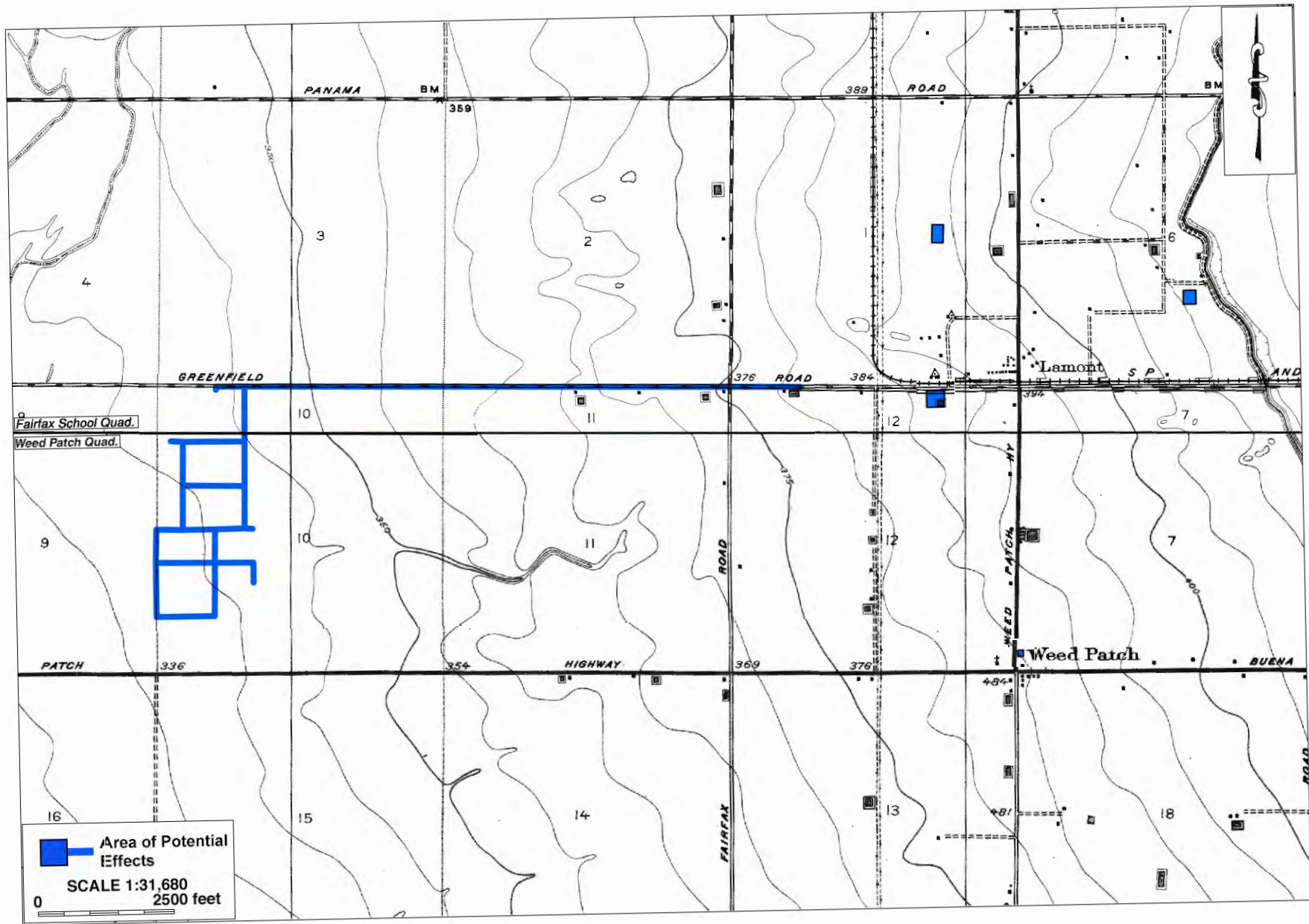


Figure 7. The APE and vicinity in 1929-1930. (Source: USGS 1932; 1933)

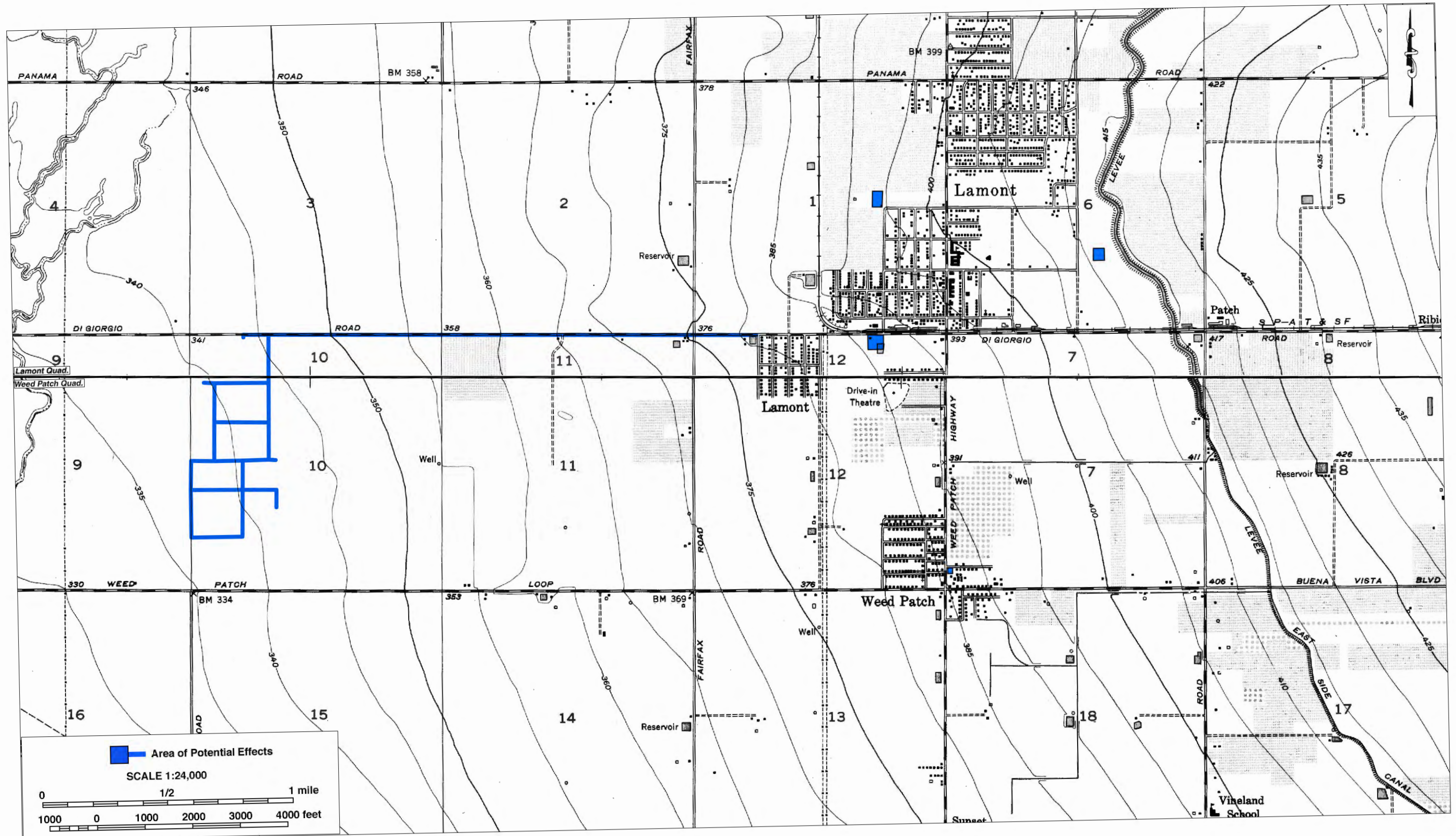


Figure 8. The APE and vicinity in 1952. (Source: USGS 1954; 1955)

- Mariza Sullivan, Chairperson, Coastal Band of Chumash Nation;
- Delia Dominguez, Chairperson, Kitanemuk and Yowlumne Tejon Indians;
- Kenneth Kahn, Chairperson, Santa Ynez Band of Chumash Indians;
- Colin Rambo, Cultural Resources Department, the Tejon Indian Tribe;
- Joey Garfield, Tribal Archaeologist, Tule River Indian Tribe.

As of this time, three of the tribal representatives have responded via telephone, and none of them expressed any concerns regarding the APE or the desire to pursue further consultation regarding this undertaking (see App. 2). Among them, Danelle Gutierrez of the Big Pine Paiute Tribe stated that the Tribe would not participate in consultation at this time based on the location of the undertaking but recommended monitoring by local tribes due to the possibility for inadvertent discoveries during ground-disturbing activities. Both Delia Dominguez of the Kitanemuk and Yowlumne Tejon Indians and Colin Rambo of the Tejon Indian Tribe stated that their Tribes had no comments regarding this undertaking.

FIELD SURVEY

The field survey did not encounter any feature or artifacts of prehistoric or historical origin at any of the four well sites. None of the features known to have been present at these locations in historic times, such as the two buildings once at Well Nos. 11 and 13 and the reservoir at Well No. 11, have left any identifiable archaeological remains on the surface. Three of the four well sites are entirely vacant today, while the reservoir and wooden fence at Well No. 13 are clearly the results of very recent activities (Fig. 4; Google Earth 2020).

As stated above, all the of the roads containing the proposed pipeline rights-of-way are at least close to 50 years old. The oldest and most prominent among them, Di Giorgio Road, was previously recorded elsewhere as Site 15-020545, of which the segment in the APE is considered an extension. However, the current appearance and configuration of these roadways reflect the results of repeated upgrading and constant maintenance since the initial construction (Fig. 4). As working components of the modern transportation infrastructure, they demonstrate no particular historical character today.

DISCUSSION

Section 106 of the National Historic Preservation Act mandates that federal agencies take into account the effects of their undertakings on historic properties and seek ways to avoid, minimize, or mitigate any adverse effects on such properties (36 CFR 800.1(a)). Similarly, CEQA establishes that “a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment” (PRC §21084.1). “Substantial adverse change,” according to PRC §5020.1(q), “means demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired.”

“Historic properties,” as defined by the Advisory Council on Historic Preservation, include “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior” (36 CFR 800.16(1)). The eligibility for inclusion in the National Register is determined by applying the

following criteria, developed by the National Park Service as per provision of the National Historic Preservation Act:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) 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; or
- (d) that have yielded, or may be likely to yield, information important in prehistory or history. (36 CFR 60.4)

For CEQA-compliance considerations, the State of California's Public Resources Code (PRC) establishes the definitions and criteria for "historical resources," which require similar protection to what NHPA Section 106 mandates for historic properties. "Historical resources," according to PRC §5020.1(j), "includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California."

More specifically, CEQA guidelines state that the term "historical resources" applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the lead agency (Title 14 CCR §15064.5(a)(1)-(3)). Regarding the proper criteria of historical significance, CEQA guidelines mandate that "generally a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources" (Title 14 CCR §15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

- (1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- (2) Is associated with the lives of persons important in our past.
- (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- (4) Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1(c)).

In summary of the research results presented above, the only features of prehistoric or historical origin identified in the APE are the various roadways that are at least close to 50 years of age. However, as stated above, none of them exhibit any distinctively historical character. The minor residential streets in the El Adobe neighborhood, while possibly dating as early as 1968, represent a class of built-environment features that are ubiquitous today and retain little potential for any historic significance. As such, they require no further consideration under Section 106 or CEQA provisions on cultural resources.

The oldest road in the APE, Di Giorgio Road, is an extension of Site 15-020545 that was recorded further to the east in 2019. At the time of its recordation, Di Giorgio Road was determined not to be eligible for listing in the National Register of Historic Places or the California Register of Historical Resources:

Di Giorgio Road has not been found individually eligible under NRHP/CRHR Criterion A/1 as it has not been associated with events or patterns of events; not eligible under Criterion B/2 as it has not been identified as having an association with an important person; not eligible under Criterion C/3 as it has not been identified as embodying the distinctive characteristics of a road and has not been identified as being the work of a master or an important and creative individual; and not eligible under Criterion D/4 as further study of the road would not appear to yield information which could be considered important in local, regional, state, or national history. (Urbana Preservation & Planning 2019:2)

The present study has yielded no new information that would warrant revisiting the 2019 evaluation of Site 15-020545. The segment of Di Giorgio Road in the APE, therefore, does not meet the definition of a “historic property” under Section 106 or a “historical resource” under CEQA.

CONCLUSION AND RECOMMENDATIONS

Section 106 of the National Historic Preservation Act mandates that federal agencies take into account the effects of their undertakings on historic properties and seek ways to avoid, minimize, or mitigate any adverse effects on such properties (36 CFR 800.1(a)). Similarly, CEQA establishes that “a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment” (PRC §21084.1). “Substantial adverse change,” according to PRC §5020.1(q), “means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired.”

In conclusion, the present study identified no “historic properties” or “historical resources” within the APE, and the subsurface sediments within the vertical extent of the APE appear to be relatively low in sensitivity for intact, potentially significant archaeological remains of prehistoric or early historical origin. Based on these findings, CRM TECH presents the following recommendations to the LPUD and the SWRCB:

- No “historic properties” or “historical resources” will be affected by the proposed undertaking.
- No further cultural resources investigation will be necessary for the undertaking unless project plans undergo such changes as to include areas not covered by this study.
- If buried cultural materials are discovered during earth-moving operations associated with the undertaking, all work in the immediate area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the find.

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1855a Plat Map: Township No. 31 South Range No. 28 East, MDBM; surveyed in 1855.
1855b Plat Map: Township No. 31 South Range No. 29 East, MDBM; surveyed in 1855.
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1995-2020 Aerial and satellite photographs of the project vicinity; taken in 1995, 2002, 2003, 2005, 2006, 2009, 2013, 2015-2018, and 2020. Available through the Google Earth software.
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1980 Geomorphic Provinces Map of California. *California Geology* 32(2):40-41. California Division of Mines and Geology, Sacramento.
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1980 Archaeological Investigations in the Southern Sierra Nevada: The Bear Mountain Segment of the Pacific Coast Trail. Cultural Resources Publications, Archaeology. U.S. Bureau of Land Management, Bakersfield District, Bakersfield.
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Urbana Preservation & Planning, LLC

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1914 Map: Caliente, Calif. (30', 1:125,000); surveyed in 1910-1912.

1932 Map: Fairfax School, Calif. (1:31,680); surveyed in 1929.

1933 Map: Weed Patch, Calif. (1:31,680); surveyed in 1930.

1954 Map: Lamont, Calif. (7.5', 1:24,000); aerial photographs taken in 1952.

1955 Map: Weed Patch, Calif. (7.5', 1:24,000); aerial photographs taken in 1952.

1971 Map: Bakersfield, Calif. (120'x60', 1:250,000); 1962 edition revised.

1992a Map: Lamont, Calif. (7.5', 1:24,000); 1954 edition photorevised in 1992

1992b Map: Weed Patch, Calif. (7.5', 1:24,000); 1955 edition photorevised in 1992.

Wallace, Charles R.

1978 Southern Valley Yokuts. In Robert F. Heizer (ed.): *Handbook of North American Indians*, Vol. 8: *California*; pp. 448-461. Smithsonian Institution, Washington, D.C.

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**APPENDIX 1
PERSONNEL QUALIFICATIONS**

**PRINCIPAL INVESTIGATOR/HISTORIAN
Bai “Tom” Tang, M.A.**

Education

- 1988-1993 Graduate Program in Public History/Historic Preservation, University of California, Riverside.
- 1987 M.A., American History, Yale University, New Haven, Connecticut.
- 1982 B.A., History, Northwestern University, Xi’an, China.
- 2000 “Introduction to Section 106 Review,” presented by the Advisory Council on Historic Preservation and the University of Nevada, Reno.
- 1994 “Assessing the Significance of Historic Archaeological Sites,” presented by the Historic Preservation Program, University of Nevada, Reno.

Professional Experience

- 2002- Principal Investigator, CRM TECH, Riverside/Colton, California.
- 1993-2002 Project Historian/Architectural Historian, CRM TECH, Riverside, California.
- 1993-1997 Project Historian, Greenwood and Associates, Pacific Palisades, California.
- 1991-1993 Project Historian, Archaeological Research Unit, University of California, Riverside.
- 1990 Intern Researcher, California State Office of Historic Preservation, Sacramento.
- 1990-1992 Teaching Assistant, History of Modern World, University of California, Riverside.
- 1988-1993 Research Assistant, American Social History, University of California, Riverside.
- 1985-1988 Research Assistant, Modern Chinese History, Yale University.
- 1985-1986 Teaching Assistant, Modern Chinese History, Yale University.
- 1982-1985 Lecturer, History, Xi’an Foreign Languages Institute, Xi’an, China.

Cultural Resources Management Reports

Preliminary Analyses and Recommendations Regarding California’s Cultural Resources Inventory System (with Special Reference to Condition 14 of NPS 1990 Program Review Report). California State Office of Historic Preservation working paper, Sacramento, September 1990.

Numerous cultural resources management reports with the Archaeological Research Unit, Greenwood and Associates, and CRM TECH, since October 1991.

PRINCIPAL INVESTIGATOR/ARCHAEOLOGIST
Michael Hogan, Ph.D., RPA (Registered Professional Archaeologist)

Education

- 1991 Ph.D., Anthropology, University of California, Riverside.
1981 B.S., Anthropology, University of California, Riverside; with honors.
1980-1981 Education Abroad Program, Lima, Peru.
- 2002 “Section 106—National Historic Preservation Act: Federal Law at the Local Level,”
UCLA Extension Course #888.
2002 “Recognizing Historic Artifacts,” workshop presented by Richard Norwood,
Historical Archaeologist.
2002 “Wending Your Way through the Regulatory Maze,” symposium presented by the
Association of Environmental Professionals.
1992 “Southern California Ceramics Workshop,” presented by Jerry Schaefer.
1992 “Historic Artifact Workshop,” presented by Anne Duffield-Stoll.

Professional Experience

- 2002- Principal Investigator, CRM TECH, Riverside/Colton, California.
1999-2002 Project Archaeologist/Field Director, CRM TECH, Riverside, California.
1996-1998 Project Director and Ethnographer, Statistical Research, Inc., Redlands, California.
1992-1998 Assistant Research Anthropologist, University of California, Riverside.
1992-1995 Project Director, Archaeological Research Unit, U.C. Riverside.
1993-1994 Adjunct Professor, Riverside Community College, Mt. San Jacinto College, U.C.
Riverside, Chapman University, and San Bernardino Valley College.
1991-1992 Crew Chief, Archaeological Research Unit, U.C. Riverside.
1984-1998 Project Director, Field Director, Crew Chief, and Archaeological Technician for
various southern California cultural resources management firms.

Research Interests

Cultural Resource Management, Southern Californian Archaeology, Settlement and Exchange
Patterns, Specialization and Stratification, Culture Change, Native American Culture, Cultural
Diversity.

Cultural Resources Management Reports

Principal investigator for, author or co-author of, and contributor to numerous cultural resources
management study reports since 1986.

Memberships

Society for American Archaeology; Society for California Archaeology; Pacific Coast
Archaeological Society; Coachella Valley Archaeological Society.

PROJECT ARCHAEOLOGIST/REPORT WRITER
Deirdre Encarnación, M.A.

Education

- 2003 M.A., Anthropology, San Diego State University, California.
2000 B.A., Anthropology, minor in Biology, with honors; San Diego State University, California.
- 2021 Certificate of Specialization, Kumeyaay Studies, Cuyamaca College, California.
2001 Archaeological Field School, San Diego State University.
2000 Archaeological Field School, San Diego State University.

Professional Experience

- 2004- Project Archaeologist/Report Writer, CRM TECH, Riverside/Colton, California.
2001-2003 Part-time Lecturer, San Diego State University, California.
2001 Research Assistant for Dr. Lynn Gamble, San Diego State University.
2001 Archaeological Collection Catalog, SDSU Foundation.

Memberships

Society for California Archaeology; Society for Hawaiian Archaeology; California Native Plant Society.

PROJECT ARCHAEOLOGIST/NATIVE AMERICAN LIAISON
Nina Gallardo, B.A.

Education

- 2004 B.A., Anthropology/Law and Society, University of California, Riverside.

Professional Experience

- 2004- Project Archaeologist, CRM TECH, Riverside/Colton, California.

Cultural Resources Management Reports

Co-author of and contributor to numerous cultural resources management reports since 2004.

APPENDIX 2

**CORRESPONDENCE WITH
NATIVE AMERICAN REPRESENTATIVES***

* Seven local Native American representatives were contacted; a sample letter is included in this report.

SACRED LANDS FILE & NATIVE AMERICAN CONTACTS LIST REQUEST

NATIVE AMERICAN HERITAGE COMMISSION

915 Capitol Mall, RM 364
Sacramento, CA 95814
(916) 653-4082
(916) 657-5390 (fax)
nahc@pacbell.net

Project: Lamont Public Utilities District Water Supply Improvement Project (CRM TECH No. 3783)

County: Kern

USGS Quadrangle Name: Lamont and Weed Patch, Calif.

Township 31 South **Range** 28 East **MD BM; Section(s):** 1, 10, and 12

Township 31 South **Range** 29 East **MD BM; Section(s):** 6 and 7

Company/Firm/Agency: CRM TECH

Contact Person: Nina Gallardo

Street Address: 1016 E. Cooley Drive, Suite A/B

City: Colton, CA **Zip:** 92324

Phone: (909) 824-6400 **Fax:** (909) 824-6405

Email: ngallardo@crmtech.us

Project Description: The primary component of the project is to make improvements to the existing Lamont Public Utilities District (LPUD) facilities, including construction of four new wells and extension of water supply to the El Adobe Property Owners Association. To supply the El Adobe neighborhood, approximately 11,000 feet of 10" diameter water transmission line will be installed within the existing right-of-way of Di Giorgio Road. At the intersection of Di Giorgio Road and Alderwood Street, an 8" diameter water distribution line will connect to the transmission line and a looped distribution line will be installed along residential streets, totaling approximately 20,000 feet in length. The Area of Potential Effects (APE) lies in and near the town of Lamont, Kern County, California.

September 28, 2021

NATIVE AMERICAN HERITAGE COMMISSION

October 29, 2021

Nina Gallardo
CRM TECHVia Email to: ngallardo@crmtech.us**Re: Proposed Lamont Public Utilities District Water Supply Improvement Project, Kern County**

Dear Ms. Gallardo:

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 negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. 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: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green
Cultural Resources Analyst

Attachment

CHAIRPERSON
Laura Miranda
LuiseñoVICE CHAIRPERSON
Reginald Pagaling
ChumashPARLIAMENTARIAN
Russell Attebery
KarukCOMMISSIONER
William Mungary
Paiute/White Mountain
ApacheCOMMISSIONER
Isaac Bojorquez
Ohlone-CostanoanCOMMISSIONER
Sara Dutschke
MiwokCOMMISSIONER
Buffy McQuillen
Yokayo Pomo, Yuki,
NomlakiCOMMISSIONER
Wayne Nelson
LuiseñoCOMMISSIONER
Stanley Rodriguez
KumeyaayEXECUTIVE SECRETARY
Christina Snider
Pomo**NAHC HEADQUARTERS**
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

**Native American Heritage Commission
Native American Contact List
Kern County
10/29/2021**

Big Pine Paiute Tribe of Owens Valley

Sally Manning, Environmental Director
P. O. Box 700
Big Pine, CA, 93513
Phone: (760) 938 - 2003
s.manning@bigpinepaiute.org
Paiute-Shoshone

Santa Ynez Band of Chumash Indians

Kenneth Kahn, Chairperson
P.O. Box 517
Santa Ynez, CA, 93460
Phone: (805) 688 - 7997
Fax: (805) 686-9578
kkahn@santaynezchumash.org
Chumash

Big Pine Paiute Tribe of the Owens Valley

James Rambeau, Chairperson
P. O. Box 700
Big Pine, CA, 93513
Phone: (760) 938 - 2003
Fax: (760) 938-2942
j.rambeau@bigpinepaiute.org
Paiute-Shoshone

Tejon Indian Tribe

Octavio Escobedo, Chairperson
P.O. Box 640
Arvin, CA, 93203
Phone: (661) 834 - 8566
oescobedo@tejonindiantribe-nsn.gov
Kitanemuk

Big Pine Paiute Tribe of the Owens Valley

Danelle Gutierrez, Tribal Historic Preservation Officer
P.O. Box 700
Big Pine, CA, 93513
Phone: (760) 938 - 2003
Fax: (760) 938-2942
d.gutierrez@bigpinepaiute.org
Paiute-Shoshone

Tejon Indian Tribe

Colin Rambo,
P.O. Box 640
Arvin, CA, 93203
Phone: (661) 834 - 8566
colin.rambo@tejonindiantribe-nsn.gov
Kitanemuk

Chumash Council of Bakersfield

Julio Quair, Chairperson
729 Texas Street
Bakersfield, CA, 93307
Phone: (661) 322 - 0121
chumashtribe@sbcglobal.net
Chumash

Tule River Indian Tribe

Neil Peyron, Chairperson
P.O. Box 589
Porterville, CA, 93258
Phone: (559) 781 - 4271
Fax: (559) 781-4610
neil.peyron@tulerivertribe-nsn.gov
Yokut

Coastal Band of the Chumash Nation

Mariza Sullivan, Chairperson
P. O. Box 4464
Santa Barbara, CA, 93140
Phone: (805) 665 - 0486
cbctribalchair@gmail.com
Chumash

Tule River Indian Tribe

Joey Garfield, Tribal Archaeologist
P. O. Box 589
Porterville, CA, 93258
Phone: (559) 783 - 8892
Fax: (559) 783-8932
joey.garfield@tulerivertribe-nsn.gov
Yokut

Kitanemuk & Yowlumne Tejon Indians

Delia Dominguez, Chairperson
115 Radio Street
Bakersfield, CA, 93305
Phone: (626) 339 - 6785
2deedominguez@gmail.com
Kitanemuk
Southern Valley
Yokut

Tule River Indian Tribe

Kerri Vera, Environmental Department
P. O. Box 589
Porterville, CA, 93258
Phone: (559) 783 - 8892
Fax: (559) 783-8932
kerri.vera@tulerivertribe-nsn.gov
Yokut

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Lamont Public Utilities District Water Supply Improvement Project, Kern County.

November 1, 2021

RE: Proposed Lamont Public Utilities District Water Supply Improvement Project
Four Well Sites and 4.88 Linear Miles of Pipeline Alignments
Unincorporated Community of Lamont, Kern County, California
CRM TECH Contract #3783

Dear Tribal Representative:

I am writing to bring your attention to an ongoing CEQA-Plus study for the proposed project referenced above, which entails improvements to the existing Lamont Public Utilities District (LPUD) facilities, including construction of four new wells and installation of 25,000 feet of pipelines within existing road rights-of-way to supply domestic water to the El Adobe Property Owners Association. The accompanying maps depict the location of the Area of Potential Effects (APE) in and near the unincorporated community of Lamont, Kern County, California, and within in Sections 1, 10, and 12, T31S R28E, and Sections 6 and 7, T31S R29E, MDBM, based on the USGS Lamont and Weed Patch, Calif., 7.5' quadrangles.

The Native American Heritage Commission reports in a letter dated October 29, 2021, that the results of the Sacred Lands File search were negative but recommends that local Native American groups be contacted for further information (see attached). Therefore, as part of the cultural resources study for this project, I am writing to request your input on potential Native American cultural resources in or near the APE.

Please respond at your earliest convenience if you have any specific knowledge of sacred/religious sites or other sites of Native American traditional cultural value in or near the APE, or any other information to consider during the cultural resources investigations. Any information or concerns may be forwarded to CRM TECH by telephone, e-mail, facsimile, or standard mail. Requests for documentation or information we cannot provide will be forwarded to our client and/or the lead agencies, namely the LPUD and State Water Resources Control Board.

We would also like to clarify that, as the cultural resources consultant for the project, CRM TECH is not involved in the AB 52-compliance process or in government-to-government consultations. The purpose of this letter is to seek any information that you may have to help us determine if there are cultural resources in or near the project area that we should be aware of and to help us assess the sensitivity of the APE. Thank you for your time and effort in addressing this important matter.

Respectfully,

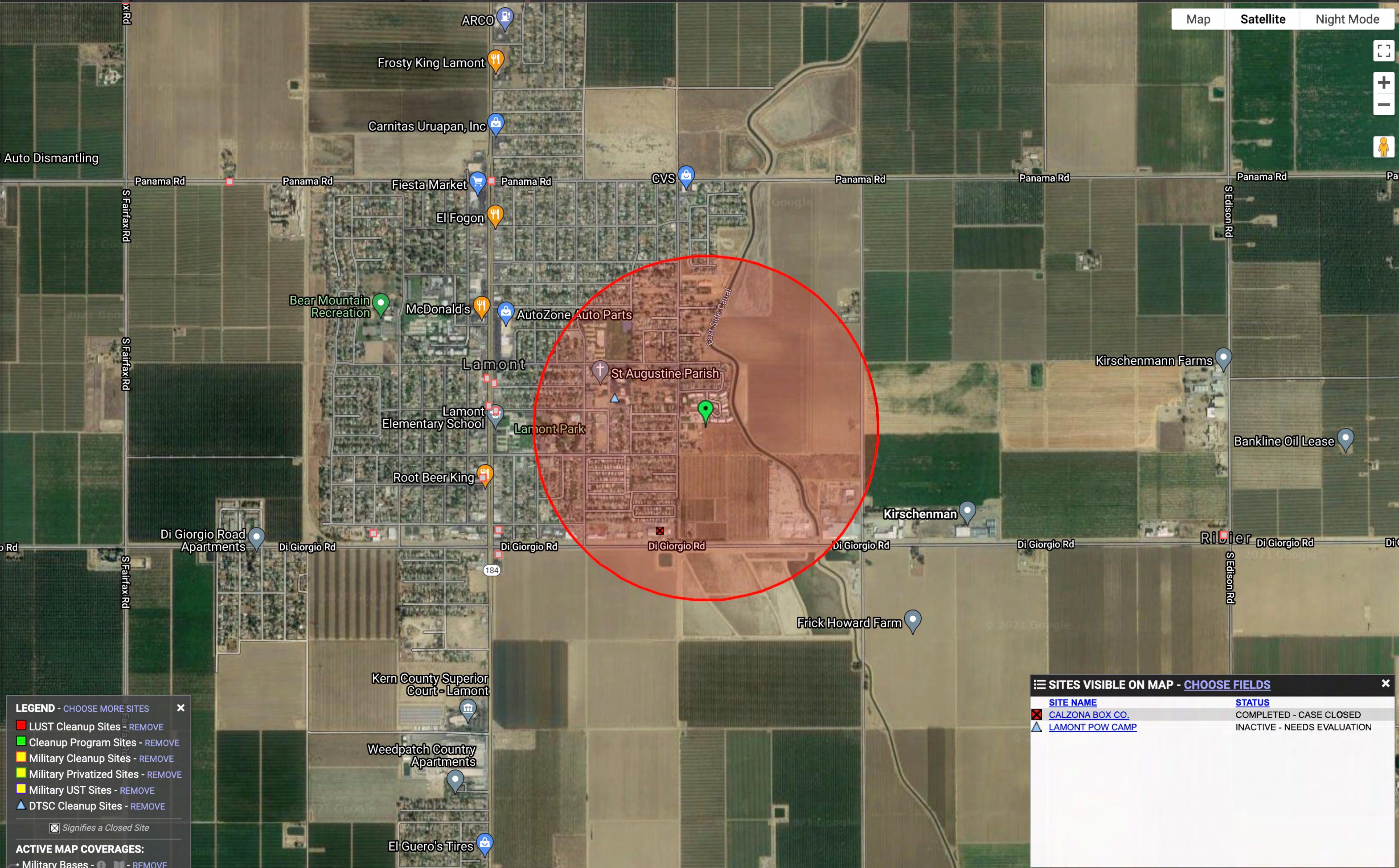
Nina Gallardo
Project Archaeologist/Native American liaison
CRM TECH
Email: ngallardo@crmtech.us

Encl.: NAHC response letter and APE location map

TELEPHONE LOG

Name	Tribe/Affiliation	Telephone Contacts	Note
Danelle Gutierrez, Tribal Historic Preservation Officer	Big Pine Paiute Tribe of the Owens Valley	2:10 pm, November 17, 2021; 2:36 pm, January 4, 2022	Ms. Gutierrez stated that the Tribe would not participate in consultation at this time based on the location of the project. She recommended monitoring by local tribes due to the possibility for inadvertent discoveries during ground- disturbing activities.
Julio Quair, Chairperson	Chumash Council of Bakersfield	2:16 pm, November 17, 2021; 2:58 pm, January 4, 2022	No voicemail available.
Mariza Sullivan, Chairperson	Coastal Band of Chumash Nation	2:18 pm, November 17, 2021; 3:00 pm, January 4, 2022	Left voice messages; no response to date.
Delia Dominguez, Chairperson	Kitanemuk and Yowlumne Tejon Indians	3:16 pm, November 17, 2021	Ms. Dominguez stated that the Tribe had no concerns or comments regarding this project.
Kenneth Kahn, Chairperson	Santa Ynez Band of Chumash Indians	3:22 pm, November 17, 2021; 3:12 pm, January 4, 2022	Left messages; no response to date.
Colin Rambo, Cultural Resources Department	Tejon Indian Tribe	3:30 pm, November 17, 2021	Mr. Rambo stated that the Tribe had no comments regarding this project.
Joey Garfield, Tribal Archaeologist	Tule River Indian Tribe	3:36 pm, November 17, 2021; 3:16 pm, January 4, 2022	Left messages; no response to date.

APPENDIX 6



LEGEND - CHOOSE MORE SITES

- LUST Cleanup Sites - REMOVE
- Cleanup Program Sites - REMOVE
- Military Cleanup Sites - REMOVE
- Military Privatized Sites - REMOVE
- Military UST Sites - REMOVE
- ▲ DTSC Cleanup Sites - REMOVE

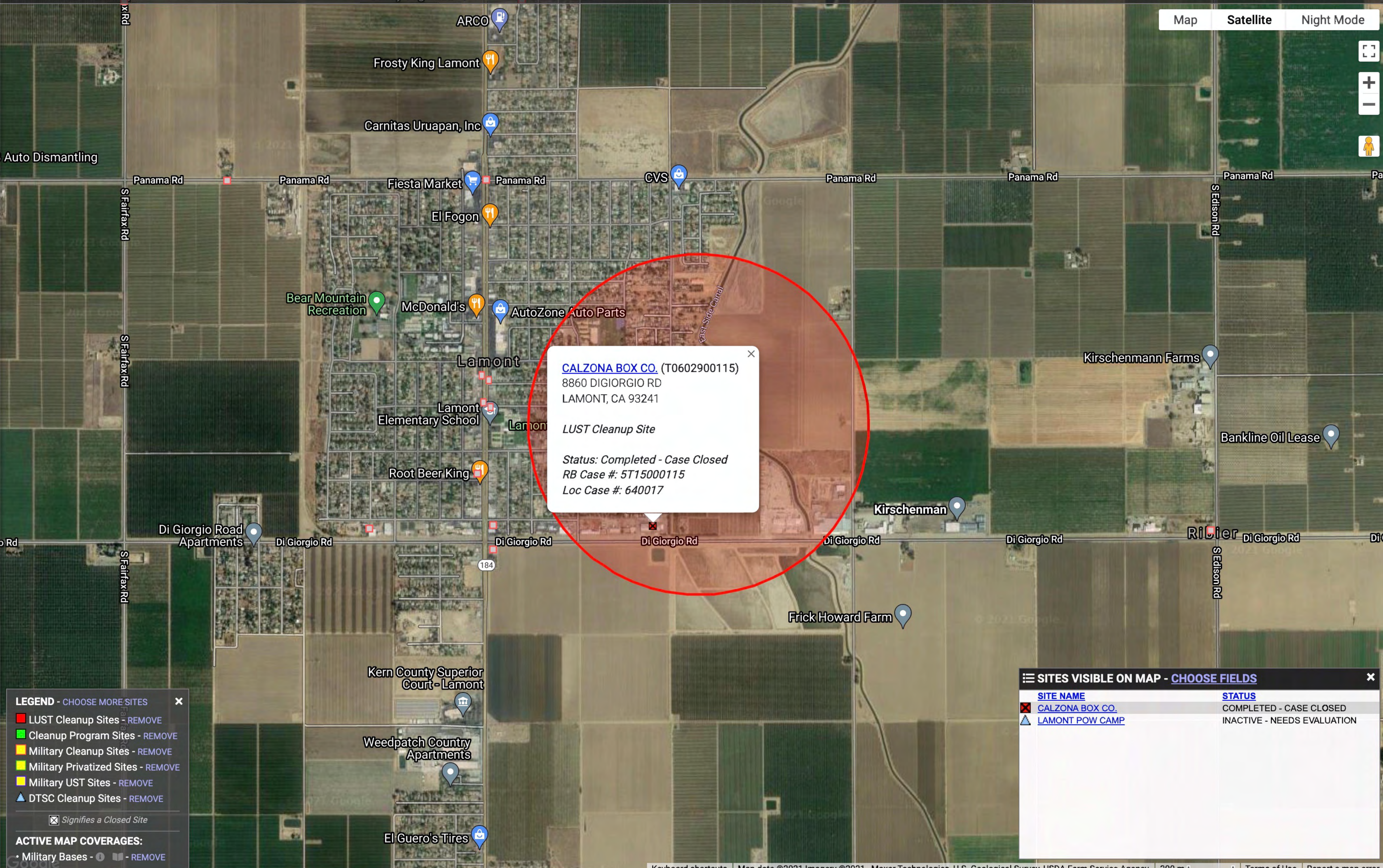
Signifies a Closed Site

ACTIVE MAP COVERAGES:

- Military Bases - REMOVE

SITES VISIBLE ON MAP - CHOOSE FIELDS

SITE NAME	STATUS
■ CALZONA BOX CO.	COMPLETED - CASE CLOSED
▲ LAMONT POW CAMP	INACTIVE - NEEDS EVALUATION



CALZONA BOX CO. (T0602900115)

8860 DIGIORGIO RD
LAMONT, CA 93241

LUST Cleanup Site

Status: Completed - Case Closed
RB Case #: 5T15000115
Loc Case #: 640017

LEGEND - CHOOSE MORE SITES

- LUST Cleanup Sites - REMOVE
- Cleanup Program Sites - REMOVE
- Military Cleanup Sites - REMOVE
- Military Privatized Sites - REMOVE
- Military UST Sites - REMOVE
- ▲ DTSC Cleanup Sites - REMOVE

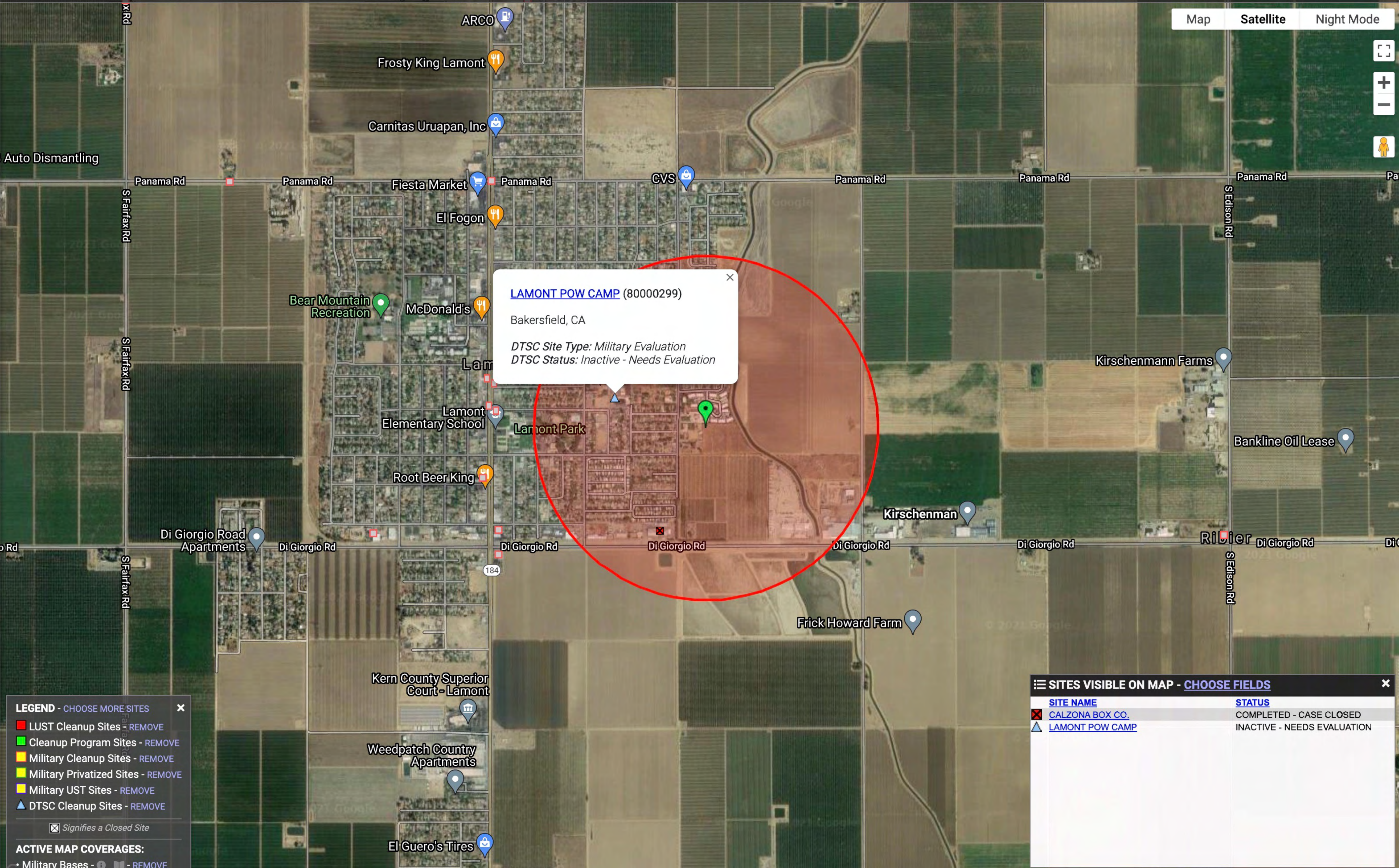
Signifies a Closed Site

ACTIVE MAP COVERAGES:

- Military Bases - REMOVE

SITES VISIBLE ON MAP - CHOOSE FIELDS

SITE NAME	STATUS
■ CALZONA BOX CO.	COMPLETED - CASE CLOSED
▲ LAMONT POW CAMP	INACTIVE - NEEDS EVALUATION



LAMONT POW CAMP (80000299)

Bakersfield, CA

DTSC Site Type: Military Evaluation
DTSC Status: Inactive - Needs Evaluation

LEGEND - CHOOSE MORE SITES

- LUST Cleanup Sites - REMOVE
- Cleanup Program Sites - REMOVE
- Military Cleanup Sites - REMOVE
- Military Privatized Sites - REMOVE
- Military UST Sites - REMOVE
- ▲ DTSC Cleanup Sites - REMOVE

Signifies a Closed Site

ACTIVE MAP COVERAGES:

- Military Bases - REMOVE

SITES VISIBLE ON MAP - CHOOSE FIELDS

SITE NAME	STATUS
■ CALZONA BOX CO.	COMPLETED - CASE CLOSED
▲ LAMONT POW CAMP	INACTIVE - NEEDS EVALUATION

[Tools](#)[Reports](#)[Community Involvement](#)[How to Use EnviroStor](#)[ESI](#)[DTSC Web](#)

LAMONT POW CAMP (80000299)

[SIGN UP FOR EMAIL ALERTS](#)

BAKERSFIELD, CA
 KERN COUNTY
SITE TYPE: FUDS

SUPERVISOR: CHARLES RIDENOUR
OFFICE: CLEANUP SACRAMENTO
CENSUS TRACT: 6029006401
CALENVIROSCREEN PERCENTILE SCORE: 76-80%

[Summary](#) | [Sub-Areas](#) | [Map](#) | [Related Sites](#) | [CalEnviroScreen](#)

Site Information

CLEANUP STATUS

INACTIVE - NEEDS EVALUATION AS OF 7/1/2005

SITE TYPE: FUDS

NATIONAL PRIORITIES LIST: NO

ACRES: 0 ACRES

APN: NONE SPECIFIED

CLEANUP OVERSIGHT AGENCIES:

DTSC - SITE CLEANUP PROGRAM - **LEAD AGENCY**

ENVIROSTOR ID: 80000299

SITE CODE:

SPECIAL PROGRAM:

FUNDING: DERA

ASSEMBLY DISTRICT: 32

SENATE DISTRICT: 14

Regulatory Profile

PAST USE(S) THAT CAUSED CONTAMINATION

NONE SPECIFIED

POTENTIAL CONTAMINANTS OF CONCERN

NONE SPECIFIED

POTENTIAL MEDIA AFFECTED

NONE SPECIFIED

Site History

[Tools](#)[Reports](#)[UST Case Closures](#)[How to Use GeoTracker](#)[ESI](#)[Information](#)

CALZONA BOX CO. (T0602900115) - [\(MAP\)](#)

[SIGN UP FOR EMAIL ALERTS](#)

8860 DIGIORGIO RD
LAMONT, CA 93241
KERN COUNTY

LUST CLEANUP SITE [\(INFO\)](#)

COMPLETED - CASE CLOSED AS OF 3/24/1993 - [DEFINITION](#)

[PRINTABLE CASE SUMMARY](#) / [CSM REPORT](#)

CLEANUP OVERSIGHT AGENCIES

KERN COUNTY (*LEAD*) - CASE #: 640017

CASEWORKER: [DOLORES GOUGH](#)

CENTRAL VALLEY RWQCB (REGION 5F) - CASE #: 5T15000115

CASEWORKER: [JOHN WHITING](#)

[Summary](#) [Cleanup Action Report](#) [Regulatory Activities](#) [Environmental Data \(ESI\)](#) [Site Maps / Documents](#) [Community Involvement](#) [Related Cases](#)

Regulatory Profile

[PRINTABLE CASE SUMMARY](#)

CLEANUP STATUS - [DEFINITIONS](#)

COMPLETED - CASE CLOSED AS OF 3/24/1993 - [CLEANUP STATUS HISTORY](#)

POTENTIAL CONTAMINANTS OF CONCERN

GASOLINE

FILE LOCATION

DWR GROUNDWATER SUB-BASIN NAME

San Joaquin Valley - Kern County (5-022.14)

POTENTIAL MEDIA OF CONCERN

SOIL

DESIGNATED GROUNDWATER BENEFICIAL USE(S) - [DEFINITIONS](#)

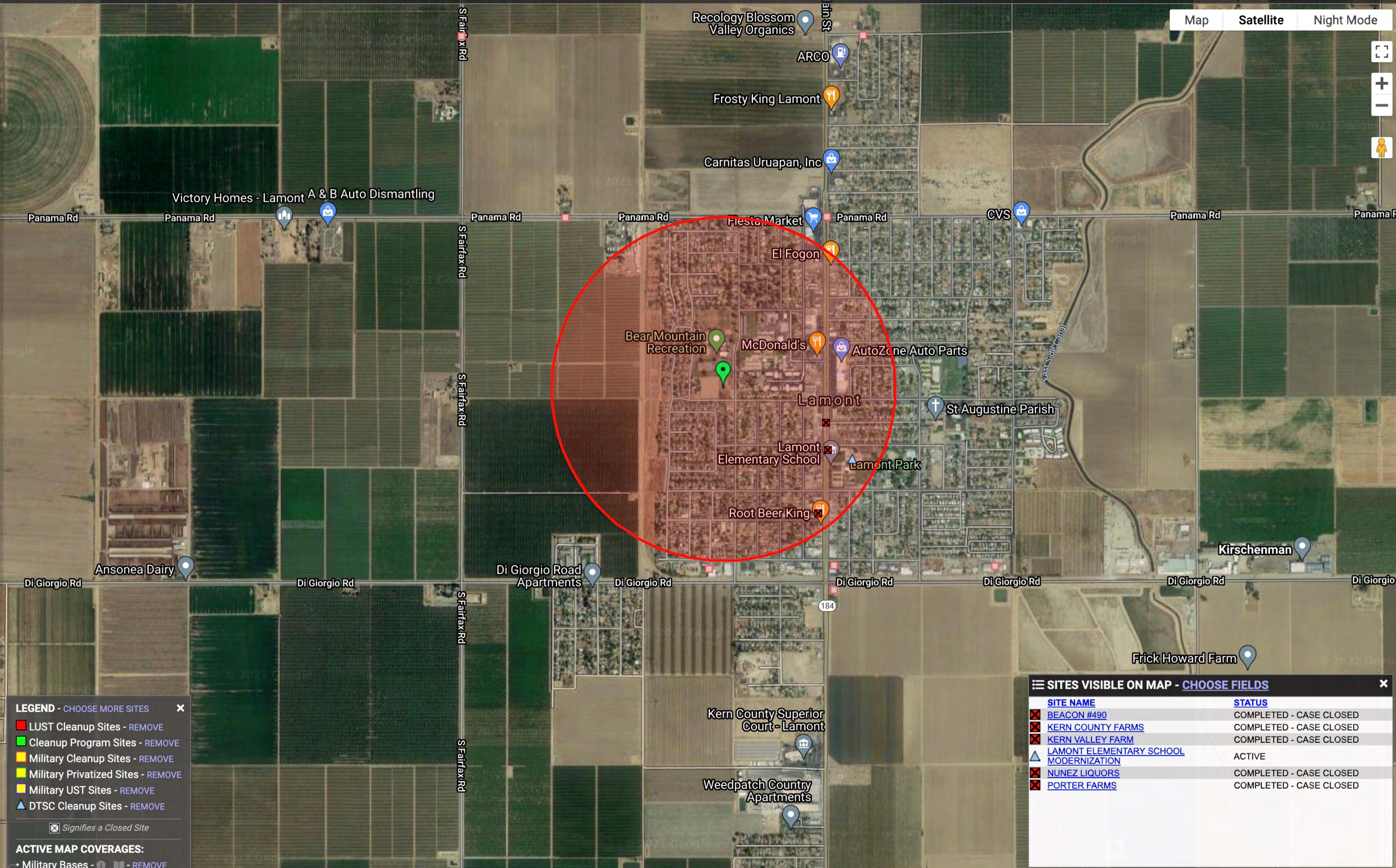
MUN, AGR, IND, PROC, WILD, REC_1, REC_2

CALWATER WATERSHED NAME

South Valley Floor - Kern Delta (557.10)

Site History

No site history available



Victory Homes - Lamont A & B Auto Dismantling

Recology Blossom Valley Organics

ARCO

Frosty King Lamont

Carnitas Uruapan, Inc

Fiesta Market

CVS

El Fogon

Bear Mountain Recreation

McDonald's

AutoZone Auto Parts

Lamont

St Augustine Parish

Lamont Elementary School

Lamont Park

Root Beer King

Ansonea Dairy

Di Giorgio Road Apartments

Kirschenman

Frick Howard Farm

Kern County Superior Court - Lamont

Weedpatch Country Apartments

LEGEND - CHOOSE MORE SITES

- LUST Cleanup Sites - REMOVE
- Cleanup Program Sites - REMOVE
- Military Cleanup Sites - REMOVE
- Military Privatized Sites - REMOVE
- Military UST Sites - REMOVE
- ▲ DTSC Cleanup Sites - REMOVE

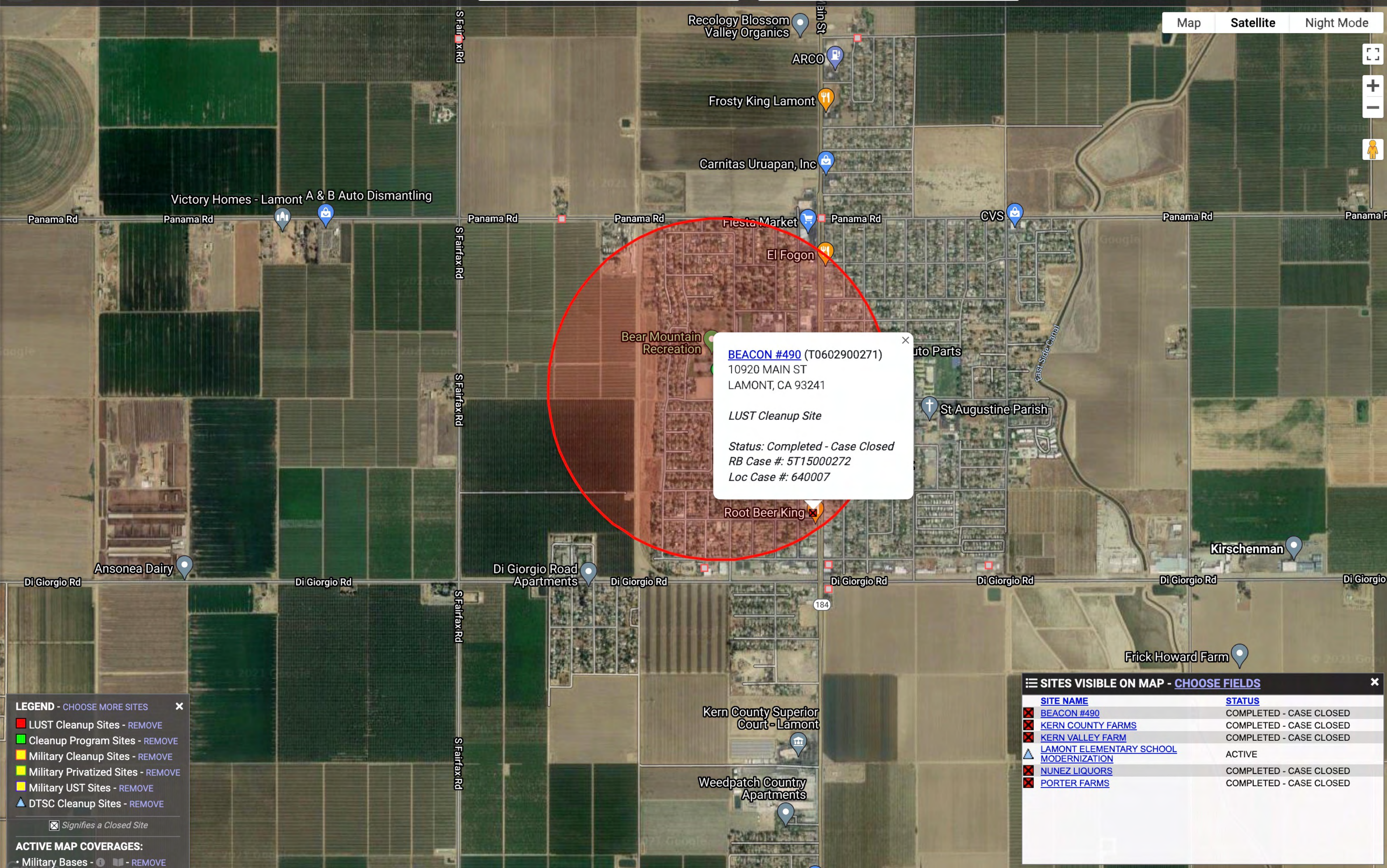
Signifies a Closed Site

SITES VISIBLE ON MAP - CHOOSE FIELDS

SITE NAME	STATUS
✘ BEACON #490	COMPLETED - CASE CLOSED
✘ KERN COUNTY FARMS	COMPLETED - CASE CLOSED
✘ KERN VALLEY FARM	COMPLETED - CASE CLOSED
▲ LAMONT ELEMENTARY SCHOOL MODERNIZATION	ACTIVE
✘ NUNEZ LIQUORS	COMPLETED - CASE CLOSED
✘ PORTER FARMS	COMPLETED - CASE CLOSED

ACTIVE MAP COVERAGES:

- Military Bases - REMOVE



BEACON #490 (T0602900271)
 10920 MAIN ST
 LAMONT, CA 93241

LUST Cleanup Site

Status: Completed - Case Closed
RB Case #: 5T15000272
Loc Case #: 640007

LEGEND - CHOOSE MORE SITES

- LUST Cleanup Sites - REMOVE
- Cleanup Program Sites - REMOVE
- Military Cleanup Sites - REMOVE
- Military Privatized Sites - REMOVE
- Military UST Sites - REMOVE
- ▲ DTSC Cleanup Sites - REMOVE

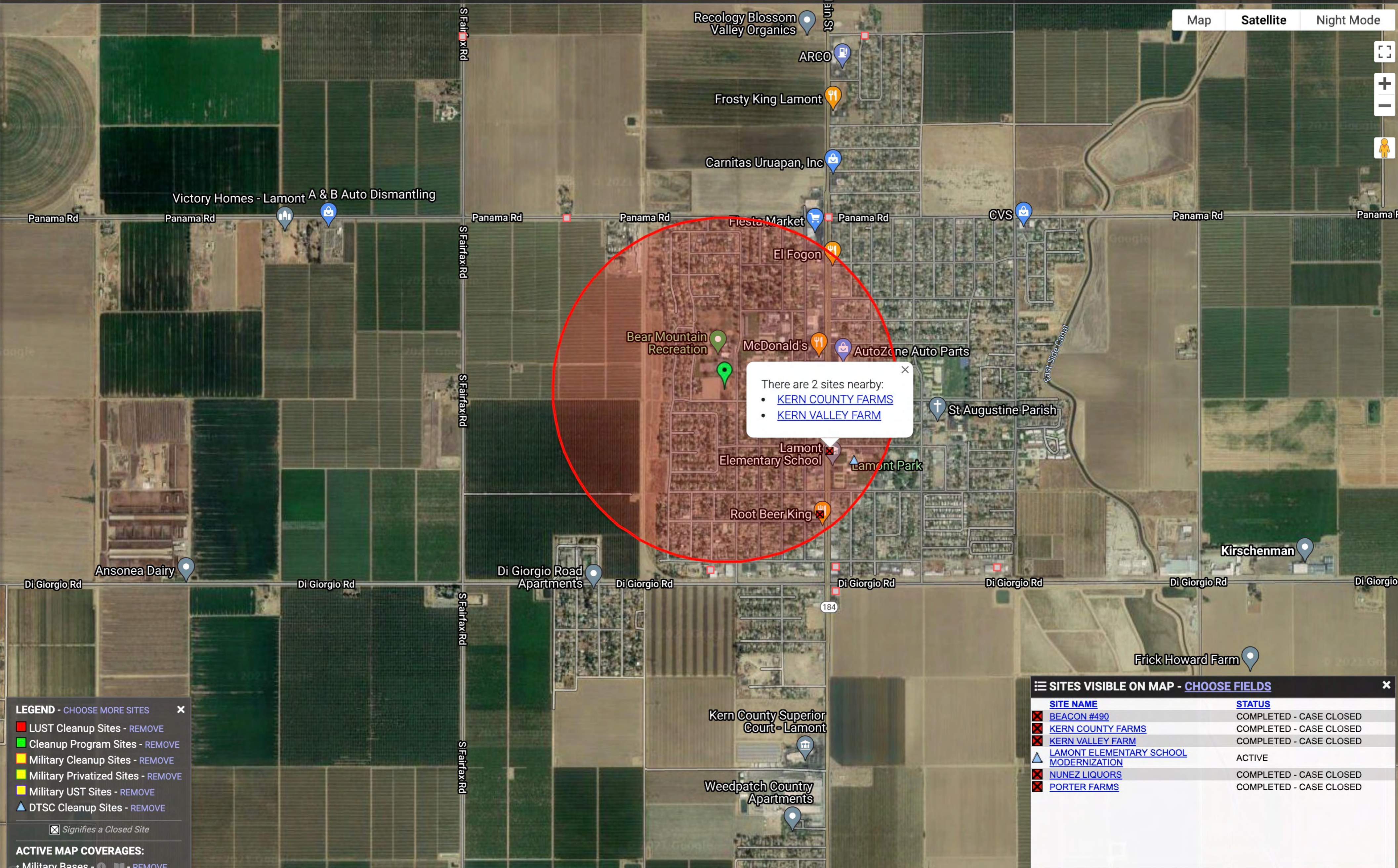
Signifies a Closed Site

ACTIVE MAP COVERAGES:

- Military Bases - REMOVE

SITES VISIBLE ON MAP - CHOOSE FIELDS

SITE NAME	STATUS
■ BEACON #490	COMPLETED - CASE CLOSED
■ KERN COUNTY FARMS	COMPLETED - CASE CLOSED
■ KERN VALLEY FARM	COMPLETED - CASE CLOSED
▲ LAMONT ELEMENTARY SCHOOL MODERNIZATION	ACTIVE
■ NUNEZ LIQUORS	COMPLETED - CASE CLOSED
■ PORTER FARMS	COMPLETED - CASE CLOSED



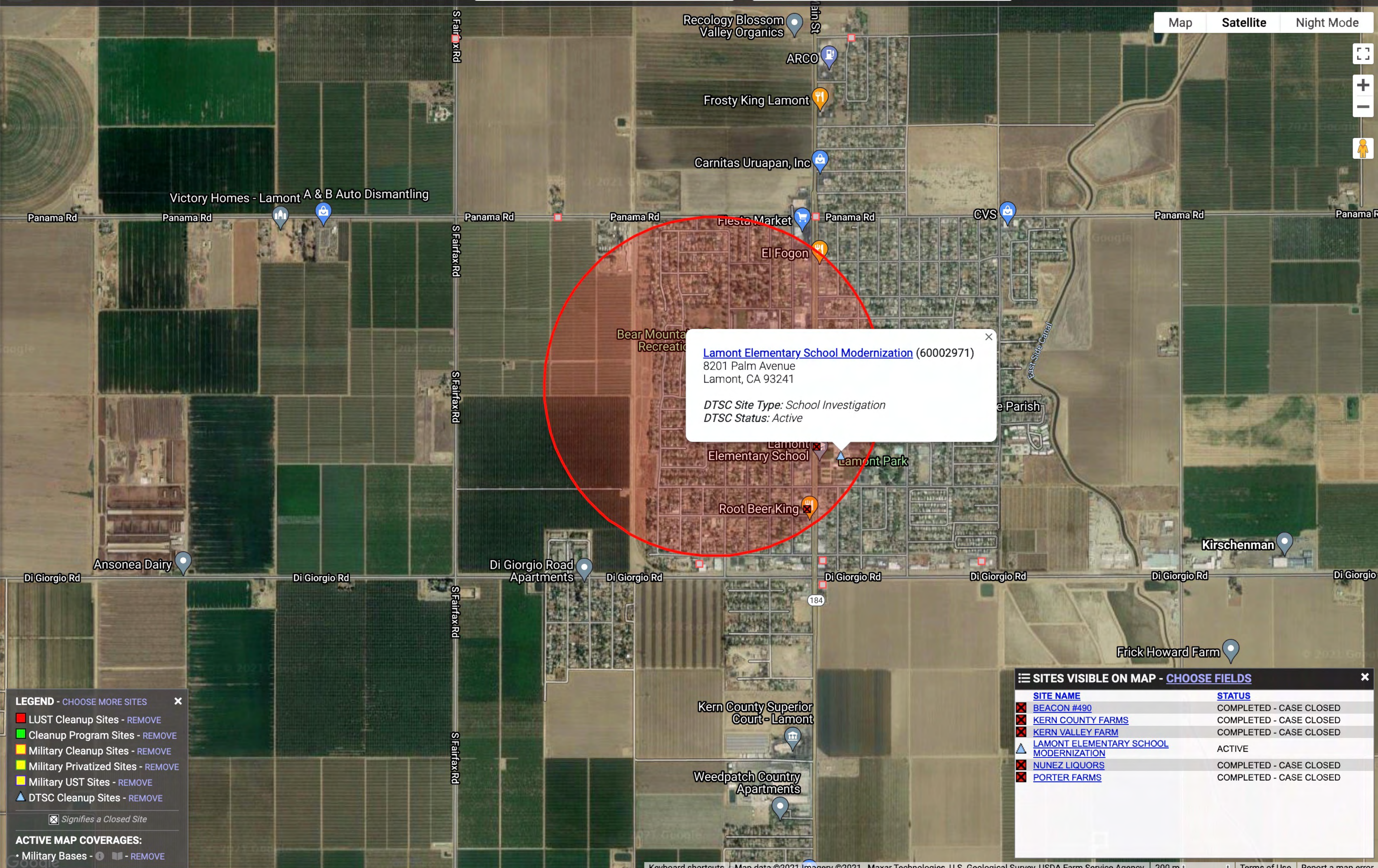
There are 2 sites nearby:

- [KERN COUNTY FARMS](#)
- [KERN VALLEY FARM](#)

- LEGEND - CHOOSE MORE SITES**
- LUST Cleanup Sites - REMOVE
 - Cleanup Program Sites - REMOVE
 - Military Cleanup Sites - REMOVE
 - Military Privatized Sites - REMOVE
 - Military UST Sites - REMOVE
 - ▲ DTSC Cleanup Sites - REMOVE
- Signifies a Closed Site

SITES VISIBLE ON MAP - CHOOSE FIELDS

SITE NAME	STATUS
<input checked="" type="checkbox"/> BEACON #490	COMPLETED - CASE CLOSED
<input checked="" type="checkbox"/> KERN COUNTY FARMS	COMPLETED - CASE CLOSED
<input checked="" type="checkbox"/> KERN VALLEY FARM	COMPLETED - CASE CLOSED
<input type="checkbox"/> LAMONT ELEMENTARY SCHOOL MODERNIZATION	ACTIVE
<input checked="" type="checkbox"/> NUNEZ LIQUORS	COMPLETED - CASE CLOSED
<input checked="" type="checkbox"/> PORTER FARMS	COMPLETED - CASE CLOSED



Lamont Elementary School Modernization (60002971)
 8201 Palm Avenue
 Lamont, CA 93241
 DTSC Site Type: School Investigation
 DTSC Status: Active

LEGEND - CHOOSE MORE SITES

- LUST Cleanup Sites - REMOVE
- Cleanup Program Sites - REMOVE
- Military Cleanup Sites - REMOVE
- Military Privatized Sites - REMOVE
- Military UST Sites - REMOVE
- ▲ DTSC Cleanup Sites - REMOVE

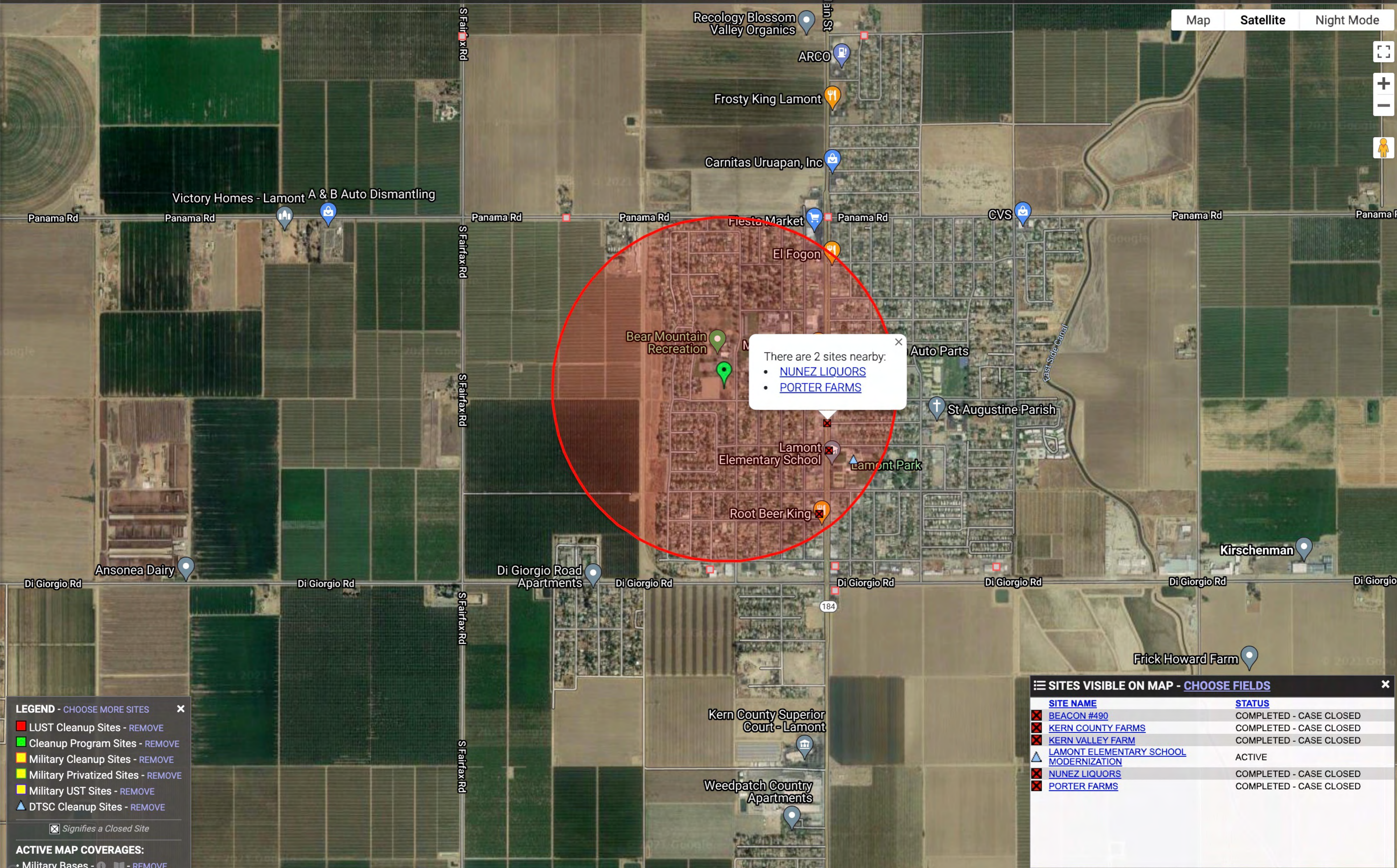
☒ Signifies a Closed Site

ACTIVE MAP COVERAGES:

- Military Bases - REMOVE

SITES VISIBLE ON MAP - CHOOSE FIELDS

SITE NAME	STATUS
☒ BEACON #490	COMPLETED - CASE CLOSED
☒ KERN COUNTY FARMS	COMPLETED - CASE CLOSED
☒ KERN VALLEY FARM	COMPLETED - CASE CLOSED
▲ LAMONT ELEMENTARY SCHOOL MODERNIZATION	ACTIVE
☒ NUNEZ LIQUORS	COMPLETED - CASE CLOSED
☒ PORTER FARMS	COMPLETED - CASE CLOSED



There are 2 sites nearby:

- [NUNEZ LIQUORS](#)
- [PORTER FARMS](#)

LEGEND - CHOOSE MORE SITES

- LUST Cleanup Sites - REMOVE
- Cleanup Program Sites - REMOVE
- Military Cleanup Sites - REMOVE
- Military Privatized Sites - REMOVE
- Military UST Sites - REMOVE
- ▲ DTSC Cleanup Sites - REMOVE

Signifies a Closed Site

ACTIVE MAP COVERAGES:

- Military Bases - REMOVE

SITES VISIBLE ON MAP - CHOOSE FIELDS

SITE NAME	STATUS
■ BEACON #490	COMPLETED - CASE CLOSED
■ KERN COUNTY FARMS	COMPLETED - CASE CLOSED
■ KERN VALLEY FARM	COMPLETED - CASE CLOSED
▲ LAMONT ELEMENTARY SCHOOL MODERNIZATION	ACTIVE
■ NUNEZ LIQUORS	COMPLETED - CASE CLOSED
■ PORTER FARMS	COMPLETED - CASE CLOSED

[Tools](#)[Reports](#)[UST Case Closures](#)[How to Use GeoTracker](#)[ESI](#)[Information](#)**BEACON #490 (T0602900271) - [\(MAP\)](#)**[SIGN UP FOR EMAIL ALERTS](#)

10920 MAIN ST
LAMONT, CA 93241
KERN COUNTY

LUST CLEANUP SITE [\(INFO\)](#)

COMPLETED - CASE CLOSED AS OF 10/19/1990 - [DEFINITION](#)

[PRINTABLE CASE SUMMARY](#) / [CSM REPORT](#)

CLEANUP OVERSIGHT AGENCIES

KERN COUNTY (**LEAD**) - CASE #: 640007

CASEWORKER: [BILL SCHEIDE](#)

CENTRAL VALLEY RWQCB (REGION 5F) - CASE #: 5T15000272

CASEWORKER: [JOHN WHITING](#)

[Summary](#) [Cleanup Action Report](#) [Regulatory Activities](#) [Environmental Data \(ESI\)](#) [Site Maps / Documents](#) [Community Involvement](#) [Related Cases](#)

Regulatory Profile[PRINTABLE CASE SUMMARY](#)**CLEANUP STATUS** - [DEFINITIONS](#)

COMPLETED - CASE CLOSED AS OF 10/19/1990 - [CLEANUP STATUS HISTORY](#)

POTENTIAL CONTAMINANTS OF CONCERN

GASOLINE

FILE LOCATION**DWR GROUNDWATER SUB-BASIN NAME**

San Joaquin Valley - Kern County (5-022.14)

POTENTIAL MEDIA OF CONCERN

SOIL

DESIGNATED GROUNDWATER BENEFICIAL USE(S) - [DEFINITIONS](#)

MUN, AGR, IND, PROC, WILD, REC_1, REC_2

CALWATER WATERSHED NAME

South Valley Floor - Kern Delta (557.10)

Site History

No site history available

[Tools](#)[Reports](#)[UST Case Closures](#)[How to Use GeoTracker](#)[ESI](#)[Information](#)

KERN COUNTY FARMS (T0602900233) - [\(MAP\)](#)

[SIGN UP FOR EMAIL ALERTS](#)

BEAR MTN FARM & RICHARDSON
LAMONT, CA 93241
KERN COUNTY

LUST CLEANUP SITE [\(INFO\)](#)

COMPLETED - CASE CLOSED AS OF 5/31/1990 - [DEFINITION](#)

[PRINTABLE CASE SUMMARY / CSM REPORT](#)

CLEANUP OVERSIGHT AGENCIES

KERN COUNTY (*LEAD*) - CASE #: 620036

CASEWORKER: [DOLORES GOUGH](#)

CENTRAL VALLEY RWQCB (REGION 5F) - CASE #: 5T15000234

CASEWORKER: [JOHN WHITING](#)

[Summary](#) [Cleanup Action Report](#) [Regulatory Activities](#) [Environmental Data \(ESI\)](#) [Site Maps / Documents](#) [Community Involvement](#) [Related Cases](#)

Regulatory Profile

[PRINTABLE CASE SUMMARY](#)

CLEANUP STATUS - [DEFINITIONS](#)

COMPLETED - CASE CLOSED AS OF 5/31/1990 - [CLEANUP STATUS HISTORY](#)

POTENTIAL CONTAMINANTS OF CONCERN

DIESEL

FILE LOCATION

DWR GROUNDWATER SUB-BASIN NAME

San Joaquin Valley - Kern County (5-022.14)

POTENTIAL MEDIA OF CONCERN

SOIL

DESIGNATED GROUNDWATER BENEFICIAL USE(S) - [DEFINITIONS](#)

MUN, AGR, IND, PROC, WILD, REC_1, REC_2

CALWATER WATERSHED NAME

South Valley Floor - Kern Delta (557.10)

Site History

No site history available

[Tools](#)[Reports](#)[UST Case Closures](#)[How to Use GeoTracker](#)[ESI](#)[Information](#)

KERN VALLEY FARM (T0602900222) - [\(MAP\)](#)

[SIGN UP FOR EMAIL ALERTS](#)

WHEELER RIDGE & TEAL RD
LAMONT, CA 93241
KERN COUNTY

LUST CLEANUP SITE [\(INFO\)](#)

COMPLETED - CASE CLOSED AS OF 4/24/1997 - [DEFINITION](#)

[PRINTABLE CASE SUMMARY](#) / [CSM REPORT](#)

CLEANUP OVERSIGHT AGENCIES

KERN COUNTY (*LEAD*) - CASE #: 600037

CASEWORKER: [DOLORES GOUGH](#)

CENTRAL VALLEY RWQCB (REGION 5F) - CASE #: 5T15000223

CASEWORKER: [JOHN WHITING](#)

[Summary](#) [Cleanup Action Report](#) [Regulatory Activities](#) [Environmental Data \(ESI\)](#) [Site Maps / Documents](#) [Community Involvement](#) [Related Cases](#)

Regulatory Profile

[PRINTABLE CASE SUMMARY](#)

CLEANUP STATUS - [DEFINITIONS](#)

COMPLETED - CASE CLOSED AS OF 4/24/1997 - [CLEANUP STATUS HISTORY](#)

POTENTIAL CONTAMINANTS OF CONCERN

GASOLINE

FILE LOCATION

DWR GROUNDWATER SUB-BASIN NAME

San Joaquin Valley - Kern County (5-022.14)

POTENTIAL MEDIA OF CONCERN

AQUIFER USED FOR DRINKING WATER SUPPLY

DESIGNATED GROUNDWATER BENEFICIAL USE(S) - [DEFINITIONS](#)

MUN, AGR, IND, PROC, WILD, REC_1, REC_2

CALWATER WATERSHED NAME

South Valley Floor - Kern Delta (557.10)

Site History

No site history available

8201 PALM AVENUE
 LAMONT, CA 93241
 KERN COUNTY
SITE TYPE: SCHOOL

PROJECT MANAGER: [LINA HIJAZI](#)
SUPERVISOR: [SHAHIR HADDAD](#)
OFFICE: SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH
SCHOOL DISTRICT: LAMONT ELEMENTARY SCHOOL DISTRICT
CENSUS TRACT: 6029006401
CALENVIROSCREEN PERCENTILE SCORE: 76-80%

[Summary](#) | [Activities](#) | [Site/Facility Docs](#) | [Map](#) | [Related Sites](#) | [CalEnviroScreen](#)

Site Information

CLEANUP STATUS

ACTIVE AS OF 11/30/2020

SITE TYPE: SCHOOL

NATIONAL PRIORITIES LIST: NO

ACRES: 9.7 ACRES

APN: 188-140-44-00-8

CLEANUP OVERSIGHT AGENCIES:

DTSC - SITE CLEANUP PROGRAM - **LEAD AGENCY**

SCHOOL DISTRICT:

LAMONT ELEMENTARY SCHOOL DISTRICT

ENVIROSTOR ID:

60002971

SITE CODE:

104822

SPECIAL PROGRAM:

FUNDING:

SCHOOL DISTRICT

ASSEMBLY DISTRICT:

, 32

SENATE DISTRICT:

, 14

Regulatory Profile

PAST USE(S) THAT CAUSED CONTAMINATION

AGRICULTURAL - ROW CROPS

POTENTIAL CONTAMINANTS OF CONCERN

ARSENIC

DDE

DDT

LEAD

POTENTIAL MEDIA AFFECTED

SOIL

Site History

Lamont Elementary School occupies an approximately 9.7-acre site bounded by residential neighborhoods to the north and south, and an adjacent park and public library to the east. The school has a total of 37 classrooms, which include 19 permanent classrooms and 18 portable classrooms. The school was first constructed in 1936 with additional permanent facilities added in 1938 and 1956. Historical land use includes agricultural land use until approximately 1942.

Modernization project will be conducted at the Lamont elementary school. The Site of this project consists of 2 areas on the existing school campus and is approximately 2.26 acres. The northern area is approximately 1.54 acres and the southern area is 0.72 acres. Soil samples were taken from 31 locations at the Site and were analyzed for OCPs (DDD, DDE, DDT, beta-BHC, and heptachlor epoxide), Lead, and arsenic (The results are included in the Phase I and Addendum report). The Phase I indicates that OCPs and lead are detected in soil samples but are below DTSC screening levels. Arsenic was detected in the four samples analyzed at concentrations ranging from 9.7 to 11 mg/kg, which exceeds the DTSC-SL of 0.11 and the EPA's Regional Screening Levels (RSLs) for residential soil (target hazard quotient of 1.0 and target risk of 1E-06) of 0.68 mg/kg. However, the maximum detected concentration is below the DTSC's Upper Bound Ambient Level for arsenic of 12 mg/kg. In a letter dated April 14, 2020, DTSC determined that the phase I and addendum reports are considered as a PEA equivalent.

[Tools](#)[Reports](#)[UST Case Closures](#)[How to Use GeoTracker](#)[ESI](#)[Information](#)

NUNEZ LIQUORS (T0602900301) - [\(MAP\)](#)

[SIGN UP FOR EMAIL ALERTS](#)

1209 MAIN ST
LAMONT, CA 93241
KERN COUNTY

LUST CLEANUP SITE [\(INFO\)](#)

COMPLETED - CASE CLOSED AS OF 10/23/1989 - [DEFINITION](#)

[PRINTABLE CASE SUMMARY](#) / [CSM REPORT](#)

CLEANUP OVERSIGHT AGENCIES

KERN COUNTY (**LEAD**) - CASE #: 640006

CASEWORKER: **X-KERN COUNTY'S QUARTERLY R**

CENTRAL VALLEY RWQCB (REGION 5F) - CASE #: 5T15000303

CASEWORKER: **JOHN WHITING**

[Summary](#) [Cleanup Action Report](#) [Regulatory Activities](#) [Environmental Data \(ESI\)](#) [Site Maps / Documents](#) [Community Involvement](#) [Related Cases](#)

Regulatory Profile

[PRINTABLE CASE SUMMARY](#)

CLEANUP STATUS - [DEFINITIONS](#)

COMPLETED - CASE CLOSED AS OF 10/23/1989 - [CLEANUP STATUS HISTORY](#)

POTENTIAL CONTAMINANTS OF CONCERN

GASOLINE

FILE LOCATION

DWR GROUNDWATER SUB-BASIN NAME

San Joaquin Valley - Kern County (5-022.14)

POTENTIAL MEDIA OF CONCERN

SOIL

DESIGNATED GROUNDWATER BENEFICIAL USE(S) - [DEFINITIONS](#)

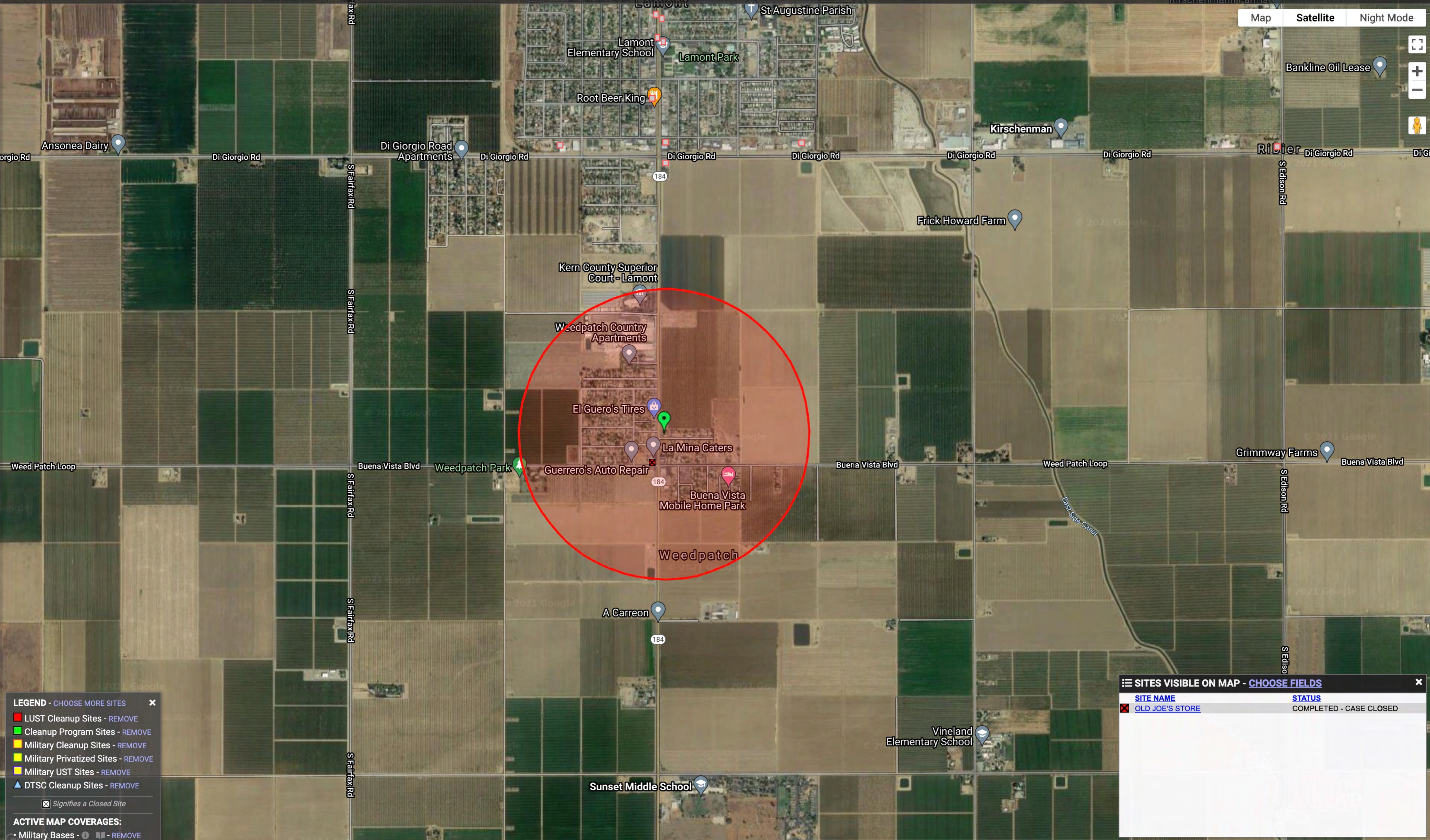
MUN, AGR, IND, PROC, WILD, REC_1, REC_2

CALWATER WATERSHED NAME

South Valley Floor - Kern Delta (557.10)

Site History

No site history available



LEGEND - CHOOSE MORE SITES ✕

- LUST Cleanup Sites - REMOVE
- Cleanup Program Sites - REMOVE
- Military Cleanup Sites - REMOVE
- Military Privatized Sites - REMOVE
- Military UST Sites - REMOVE
- ▲ DTSC Cleanup Sites - REMOVE

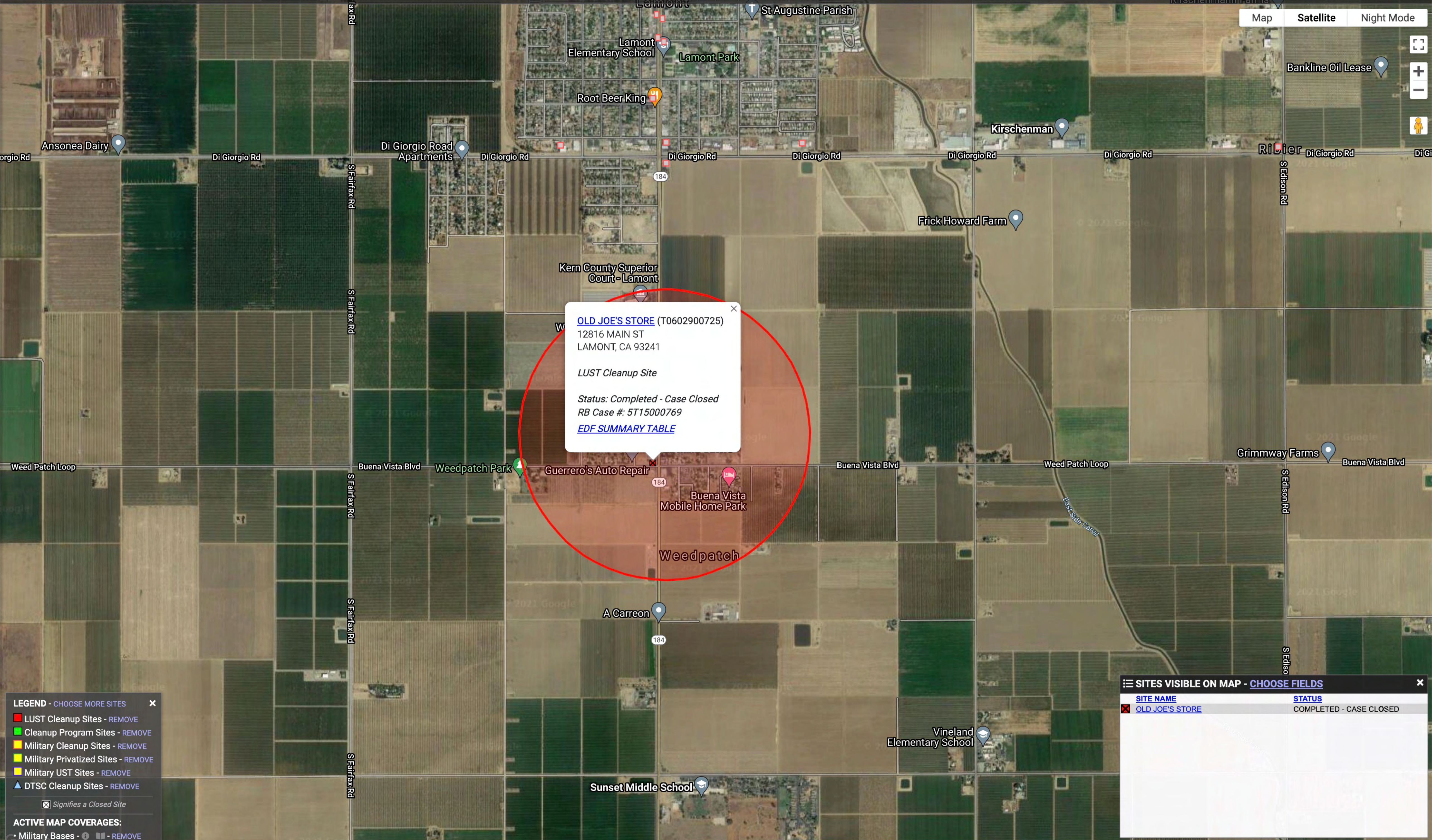
Signifies a Closed Site

ACTIVE MAP COVERAGES:

- Military Bases - REMOVE

SITES VISIBLE ON MAP - CHOOSE FIELDS ✕

SITE NAME	STATUS
✕ OLD JOE'S STORE	COMPLETED - CASE CLOSED



OLD JOE'S STORE (T0602900725)
 12816 MAIN ST
 LAMONT, CA 93241

LUST Cleanup Site

Status: Completed - Case Closed
 RB Case #: 5T15000769

[EDF SUMMARY TABLE](#)

LEGEND - CHOOSE MORE SITES

- LUST Cleanup Sites - REMOVE
- Cleanup Program Sites - REMOVE
- Military Cleanup Sites - REMOVE
- Military Privatized Sites - REMOVE
- Military UST Sites - REMOVE
- ▲ DTSC Cleanup Sites - REMOVE

Signifies a Closed Site

ACTIVE MAP COVERAGES:

- Military Bases - REMOVE

SITES VISIBLE ON MAP - CHOOSE FIELDS

SITE NAME	STATUS
■ OLD JOE'S STORE	COMPLETED - CASE CLOSED

[Tools](#)[Reports](#)[UST Case Closures](#)[How to Use GeoTracker](#)[ESI](#)[Information](#)

OLD JOE'S STORE (T0602900725) - [\(MAP\)](#)

[SIGN UP FOR EMAIL ALERTS](#)

12816 MAIN ST
LAMONT, CA 93241
KERN COUNTY

LUST CLEANUP SITE [\(INFO\)](#)

COMPLETED - CASE CLOSED AS OF 12/31/2013 - [DEFINITION](#)

[PRINTABLE CASE SUMMARY](#) / [CSM REPORT](#)

CUF Claim #: 13095
CUF Priority Assigned: B
CUF Amount Paid: \$530,059

CLEANUP OVERSIGHT AGENCIES
CENTRAL VALLEY RWQCB (REGION 5F) *(LEAD)* - CASE #: 5T15000769
CASEWORKER: [JOHN WHITING](#)
KERN COUNTY - CASE #: 640011

[Summary](#) [Case Reviews](#) [Cleanup Action Report](#) [Regulatory Activities](#) [Environmental Data \(ESI\)](#) [Site Maps / Documents](#) [Community Involvement](#) [Related Cases](#) [LUST CUF Data](#)

Regulatory Profile

[PRINTABLE CASE SUMMARY](#)

CLEANUP STATUS - [DEFINITIONS](#)

COMPLETED - CASE CLOSED AS OF 12/31/2013 - [CLEANUP STATUS HISTORY](#)

POTENTIAL CONTAMINANTS OF CONCERN

GASOLINE

FILE LOCATION

REGIONAL BOARD

DWR GROUNDWATER SUB-BASIN NAME

San Joaquin Valley - Kern County (5-022.14)

GROUNDWATER MONITORING FREQUENCY

OF WELLS MONITORED - SEMI-ANNUALLY : 5

POTENTIAL MEDIA OF CONCERN

OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER)

DESIGNATED GROUNDWATER BENEFICIAL USE(S) - [DEFINITIONS](#)

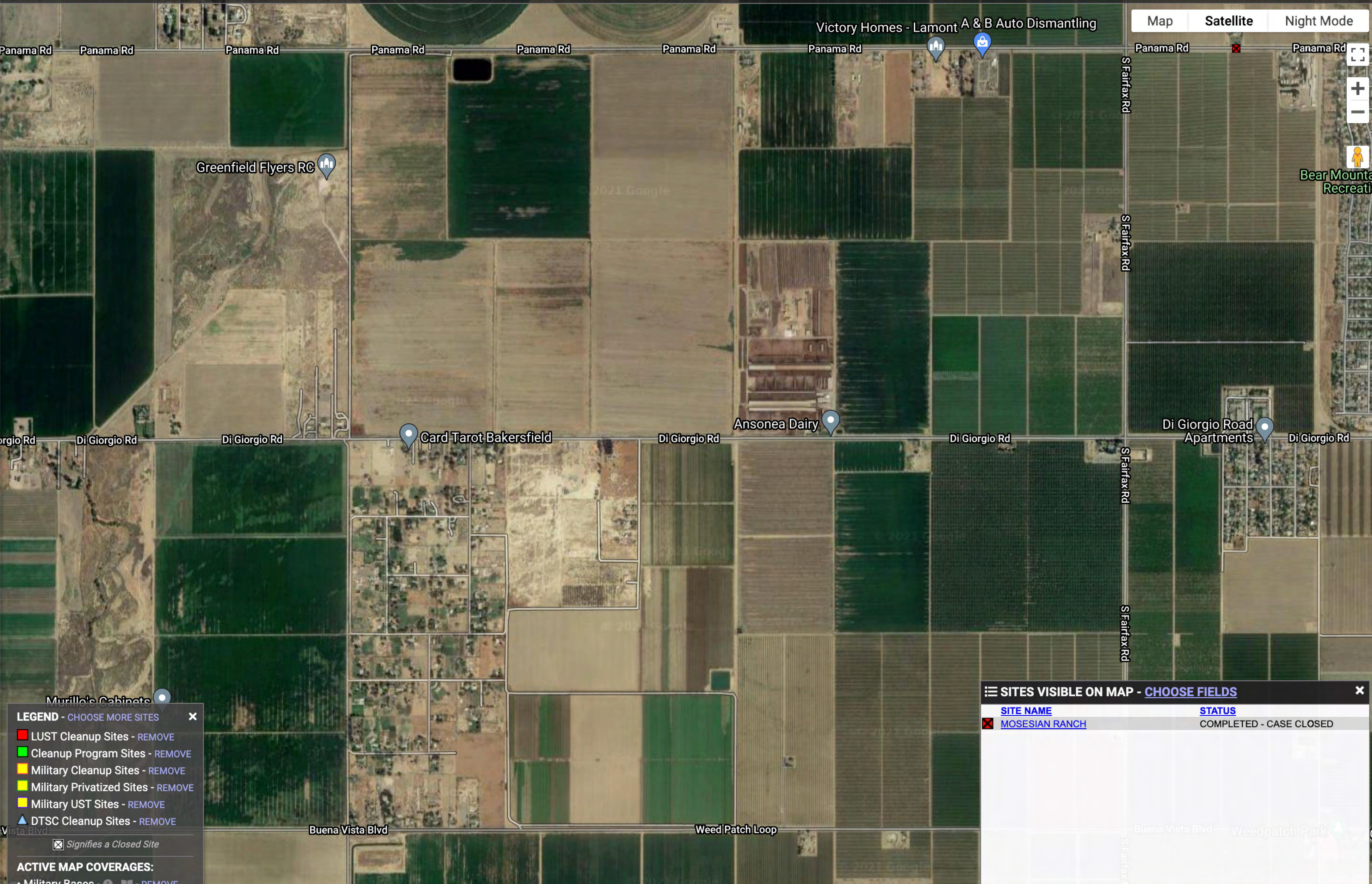
MUN, AGR, IND, PROC, WILD, REC_1, REC_2

CALWATER WATERSHED NAME

South Valley Floor - Kern Delta (557.10)

Site History

No site history available



Map Satellite Night Mode

LEGEND - CHOOSE MORE SITES

- LUST Cleanup Sites - REMOVE
- Cleanup Program Sites - REMOVE
- Military Cleanup Sites - REMOVE
- Military Privatized Sites - REMOVE
- Military UST Sites - REMOVE
- ▲ DTSC Cleanup Sites - REMOVE

☒ Signifies a Closed Site

ACTIVE MAP COVERAGES:

- Military Bases - REMOVE

SITES VISIBLE ON MAP - CHOOSE FIELDS

SITE NAME	STATUS
☒ MOSESIAN RANCH	COMPLETED - CASE CLOSED

APPENDIX 7

Lamont Public Utility District Hydrogeologic Study

DRAFT REPORT

Prepared For:

Lamont Public Utility District
8624 Segreue Road
Lamont, CA 93241

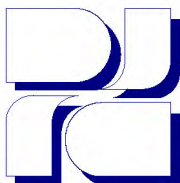
Prepared By:

Curtis M. Skaggs
Professional Engineer
Calif. License #60960

and

Kenneth D. Schmidt
Registered Hydrogeologist
Calif. License #176

June 15, 2020



DEE JASPAR & ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS
2730 UNICORN ROAD, BLDG. A
BAKERSFIELD, CA 93308
PHONE (661) 393-4796
FAX (661) 393-4799

Contents

Introduction 2
Approach 4
Findings 4
Conclusions 10

Appendices:

- Appendix A: Figures/Maps
- Appendix B: Ken Schmidt & Associates, Inc. Study Report
- Appendix C: Well Completion Reports

Introduction

A preliminary engineering evaluation was prepared that evaluated the Lamont Public Utility District (District) water supply system with respect to supply sources, water quality, water storage, and water system infrastructure. The recommendation is to replace four aging wells that all have exceedances of the MCL for water quality – Well No. 5, 11, 12, and 13. In order to achieve constructing wells that do not require treatment, it was recommended to perform a hydrogeologic study, drill casing hammer test wells, and to construct water supply wells based on those preliminary studies.

As a result, the District has prepared this hydrogeologic study to determine the best locations for new groundwater supply wells to add to the District's water system as potable and State permitted sources. The District desires to complete wells in the Lamont area each with a 800 gpm to 1,200 gpm capacity. The study area is bounded by Hermosa Road to the north, Oswell Road to the west, Stenderup Avenue to the south, and Edison Drive to the east.

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DEE JASPAR & ASSOCIATES, INC, 2730 UNICORN ROAD, BLDG A, BKFLD, CA 93308

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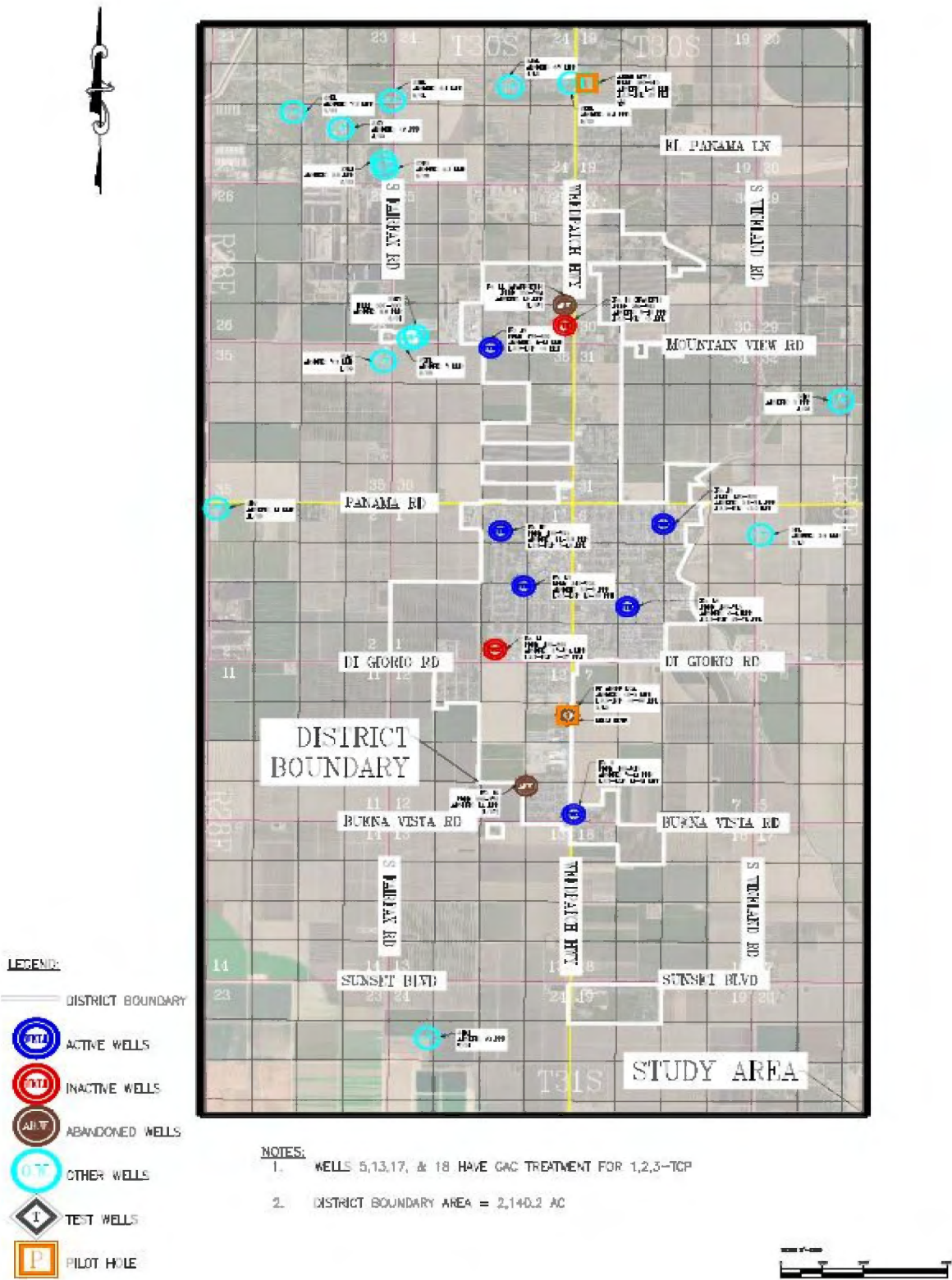


Figure A – Lamont PUD Study Area

Approach

The hydrogeologic study involved a review of existing water wells in the area, a review of existing water quality information, and a review of previous hydrogeologic studies. Well Completion Reports were obtained by Ken Schmidt & Associates, Inc. for nearby wells in the Lamont area. These wells have been plotted on an area map attached in Appendix A and illustrated in Figure A. Dee Jasper & Associates, Inc. obtained water quality information for the existing District wells. Dr. Schmidt also reviewed other water supply well information that was available within the Lamont area.

The two major constituents of concern are Arsenic and 1,2,3-TCP. The purpose of this report is to evaluate the information of these two constituents in the groundwater beneath Lamont and to provide recommendations on well locations and the construction of four future wells within the District.

Findings

The District currently has eight active water supply wells. The well data is shown in Table 1 and the well locations are illustrated in Figure B.

Well No.	Date Drilled	Age	Depth Drilled	Casing Diameter	Casing Depth	Screened Interval	Annular Seal	MCL Exceedance
5	1967	53	755-ft	16"	750-ft	400-750	100-ft	1,2,3-TCP ²
11	1967	53	800-ft	16"	800-ft	400-800	100-ft	1,2,3-TCP ³
12	1974	46	820-ft	14"	793-ft	395-793	100-ft	Arsenic ⁴
13	1972	48	720-ft	14"	702-ft	348-702	50-ft	1,2,3-TCP ²
15	1992	28	895-ft	16"	880-ft	495-800	400-ft	NA
17	2004	16	800-ft	16"	725-ft	400-705	380-ft	1,2,3-TCP ¹
18	2005	15	810-ft	16"	735-ft	400-715	375-ft	1,2,3-TCP ¹
19	2014	6	900-ft	16"	850-ft	470-830	450-ft	Arsenic

¹GAC Treatment is permanently installed at these well facilities and they are in compliance for 1,2,3-TCP

²GAC Treatment is temporarily installed at these well facilities and they are in compliance for 1,2,3-TCP

³Well 11 has been inactivated since it has 1,2,3-TCP above the MCL

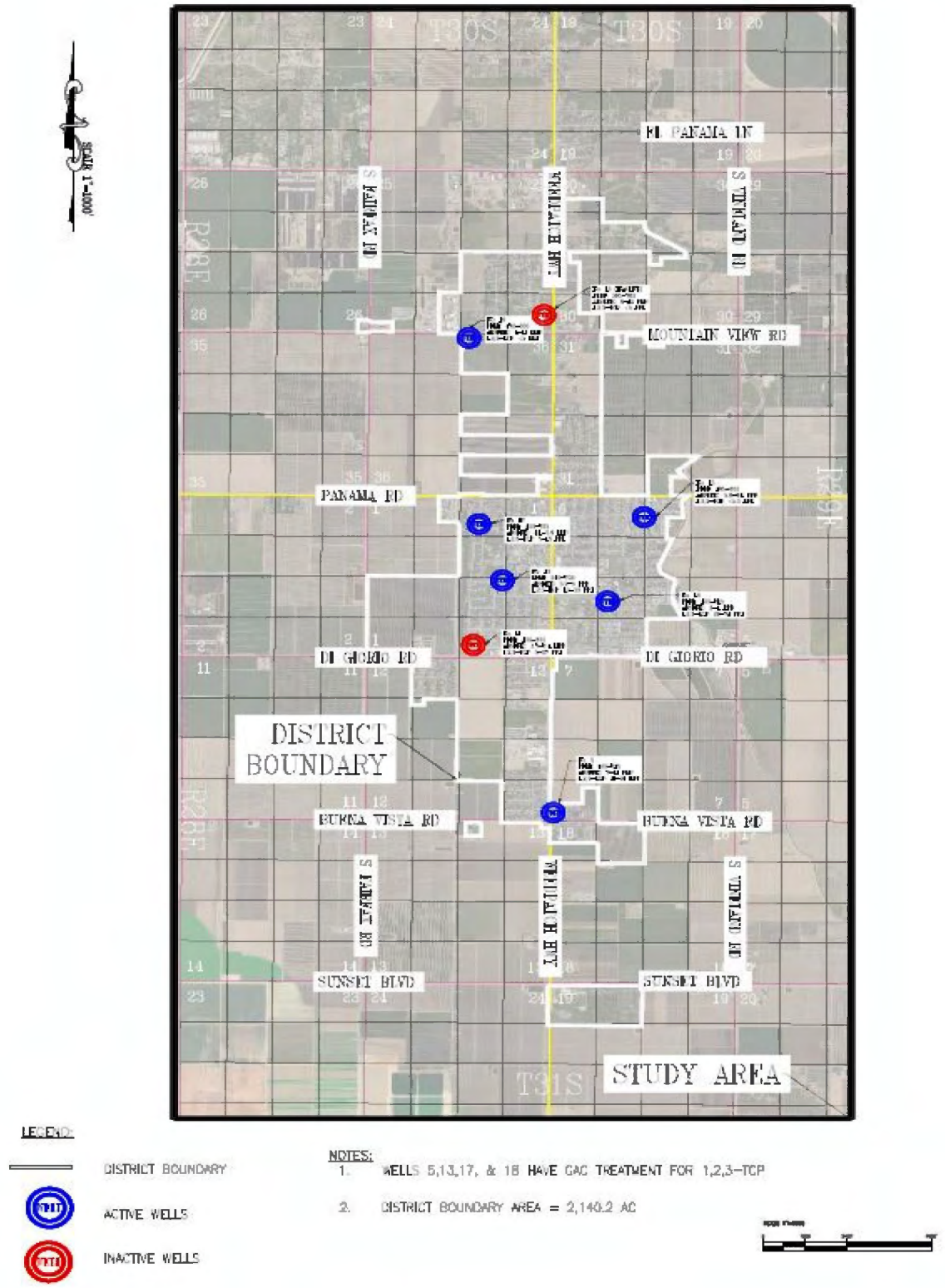
⁴Well 12 has been inactivated since it has Arsenic at or above the MCL

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Figure B –



Lamont PUD Water Supply Wells

PREPARED BY:
 DEE JASPAR & ASSOCIATES, INC, 2730 UNICORN ROAD, BLDG A, BKFLD, CA 93308
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Well #14 and Well #16 are inactive wells that have been abandoned or destroyed. Well #14 was drilled in 1992 to an approximate depth of 948-ft. This well was inactivated in 2007 due to a collapsed casing. Well #16 was drilled in 1994 to an approximate depth of 900-ft. It had a 16" casing to a depth of 870-ft with a screened interval from 550-ft to 870-ft. The annular seal extended from ground surface to a depth of 540-ft. The well was inactivated in 2008 due to perchlorate levels exceeding the MCL of 6 ppb.

The ground elevation in the area of Lamont is around 400-ft mean sea level (MSL). The historic high water levels have been around 170-ft to 260-ft MSL. The historic low water levels have been around 60-ft to 125-ft MSL. Water levels in the area fluctuate depending on the climate, however over the last twenty years depth to water measurements have ranged from approximately 150-ft to approximately 350-ft below ground surface.

The shallow groundwater in this area is impacted by Nitrate and 1,2,3-TCP concentrations that exceed the State Maximum Contaminant Level (MCL). The deeper groundwater in this area is impacted by Arsenic.

The lowest Arsenic concentrations appear to be in wells that are screened above 715-ft with a range of 2 ppb to 6 ppb. The higher Arsenic concentrations of 11 ppb to 19 ppb were found in wells screened to depths of about 780-ft to 880-ft.

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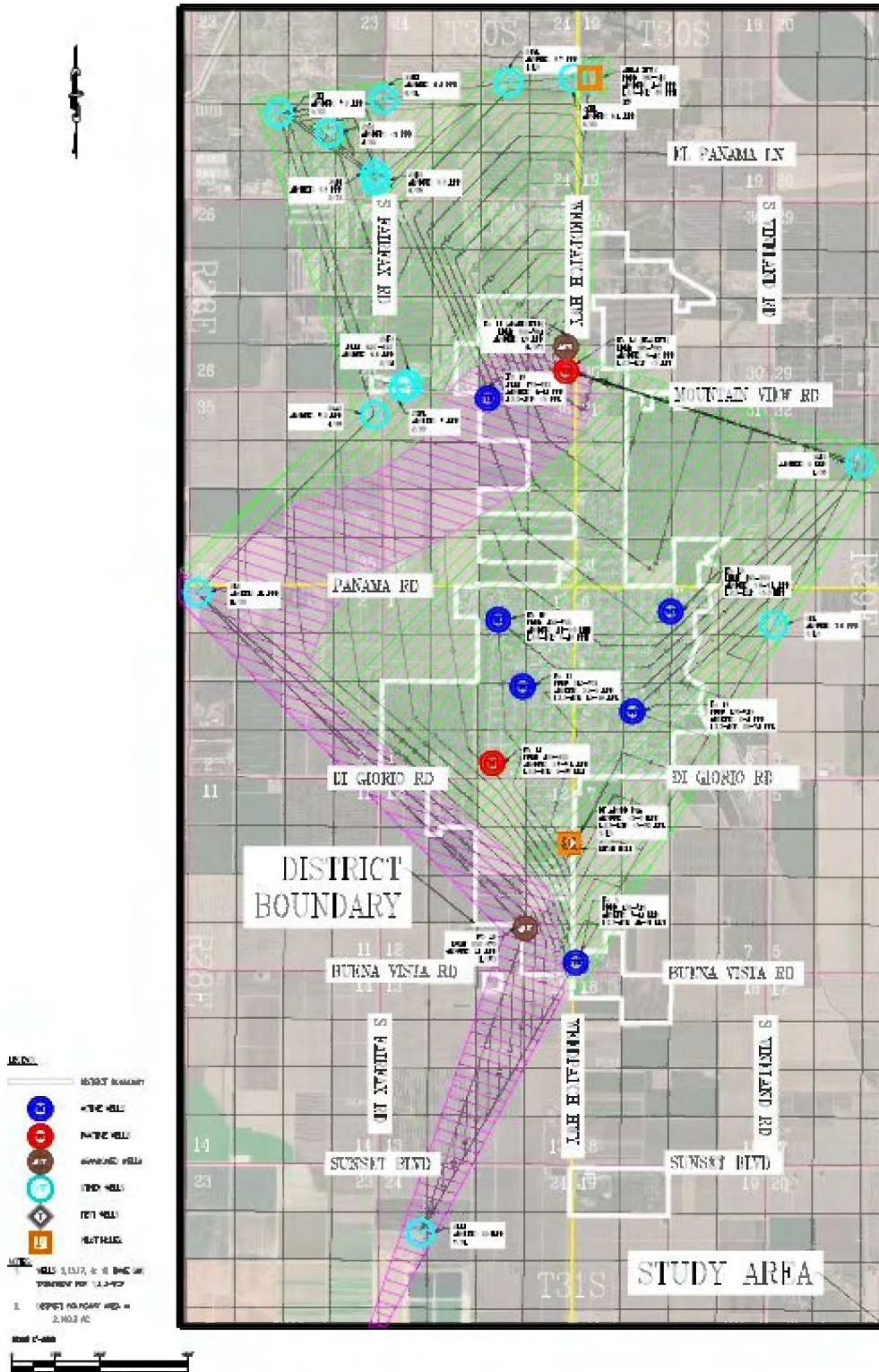


Figure C – Arsenic Contour Map

The lowest 1,2,3-TCP concentrations appear to be in wells that are screened below a depth of 480-ft. The highest 1,2,3-TCP concentrations are found in wells screened above 480-ft.

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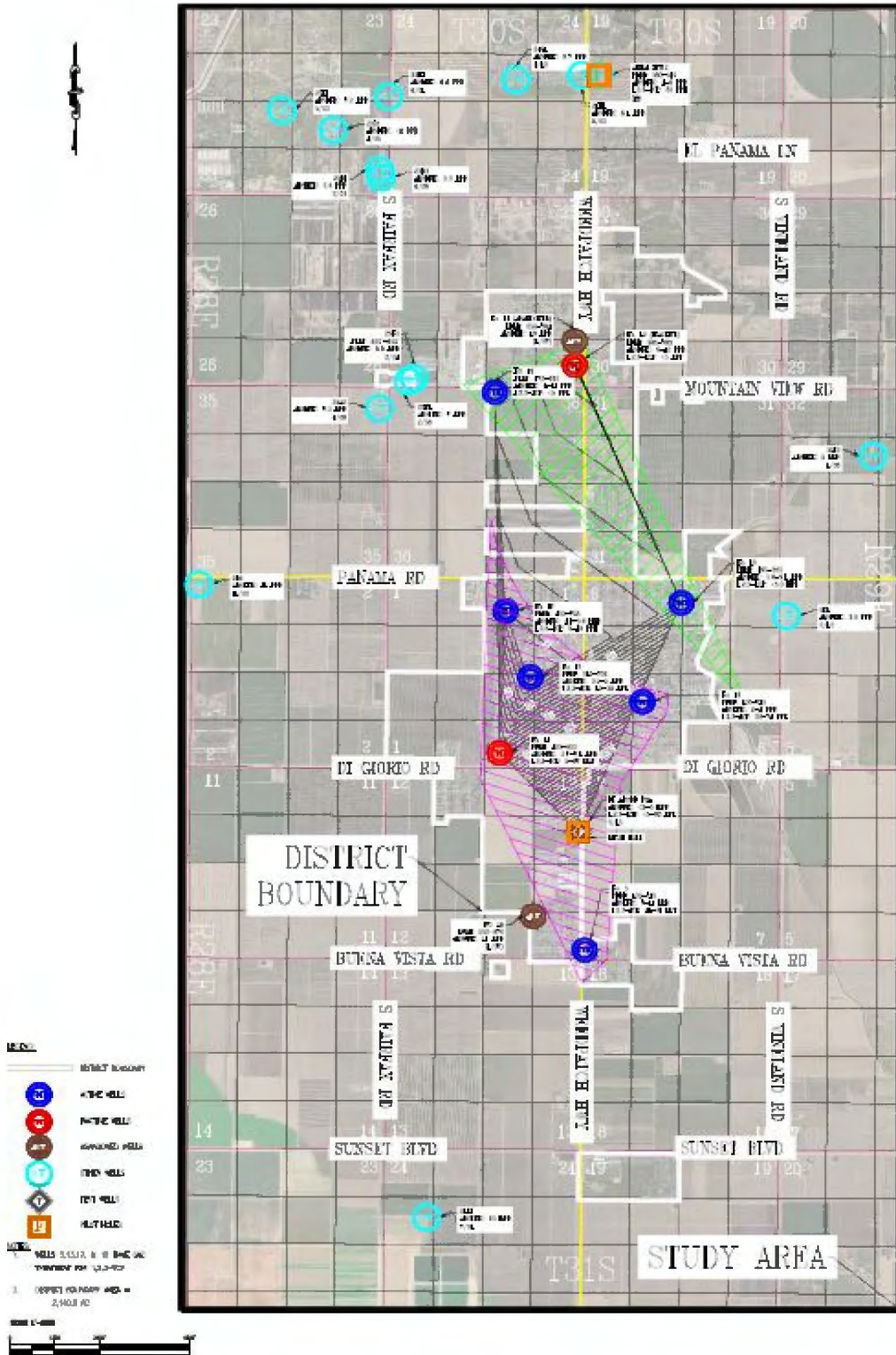


Figure D – 1,2,3-TCP Contour Map

Conclusions

The water quality data for wells in the general area of Lamont indicate that wells completed below about 480-ft should be below the MCL for 1,2,3,-TCP and that wells completed above about 720-ft should be below the MCL for Arsenic. Geologic logs for this area indicate that the thickness of sand and gravel layers between 480-ft and 720-ft are sufficient to allow well yields between 800 gpm to 1,200 gpm and upwards of 1,500 gpm.

The recommended construction, in general, is to perforate between 480-ft and 720-ft in depth with an annular seal extending from a depth of about 450-ft up to ground surface. However, there are other extenuating circumstances such as nearby well conduits that need to be considered. New well sites should be constructed a minimum of 1,760-ft away from existing wells and a casing hammer test well shall be constructed prior to designing and drilling a production water well.

A casing hammer test well is an 8-inch steel casing that is installed to approximately 900-ft in depth by the air rotary and hammer method. The well hole is drilled below the casing into different formations. The casing pipe follows behind the drill bit. When a water bearing formation is encountered (sand), the casing pipe is landed above in a clay layer thus sealing off the water above that formation. The water bearing formation is airlifted and pumped and water samples collected. This procedure is repeated at all water bearing formations from the depth of water to approximately 900-ft. This test well method allows for much more frequent and accurate water quality samples than any other method and will provide the District the best chance at completing wells that do not require any treatment.

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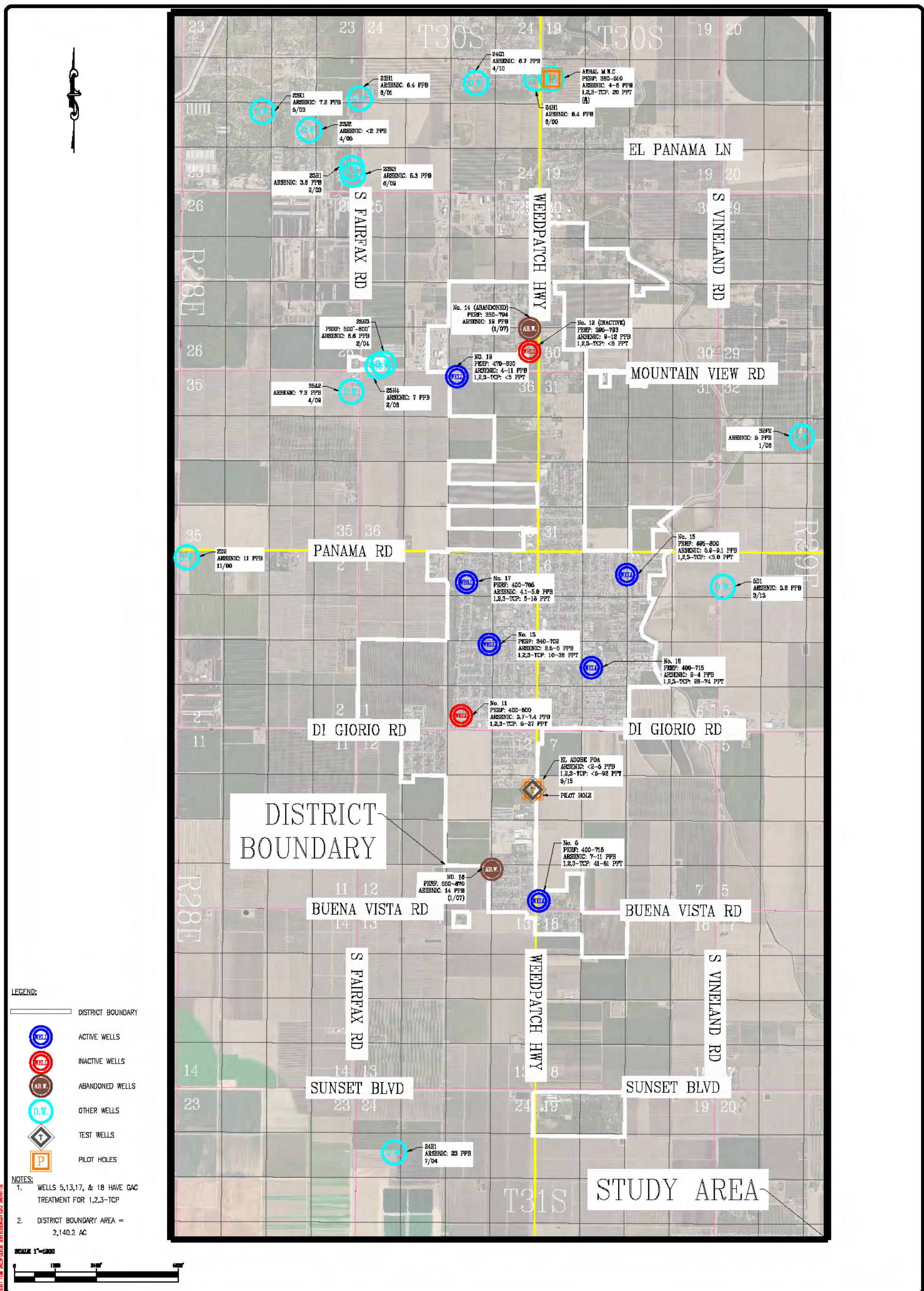
APPENDIX A

Area Maps

PREPARED BY:

DEE JASPAR & ASSOCIATES, INC, 2730 UNICORN ROAD, BLDG A, BKFLD, CA 93308

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- LEGEND:**
- DISTRICT BOUNDARY
 - ACTIVE WELLS
 - INACTIVE WELLS
 - ABANDONED WELLS
 - OTHER WELLS
 - TEST WELLS
 - PILOT HOLES

NOTES:

1. WELLS 5,13,17, & 18 HAVE GAC TREATMENT FOR 1,2,3-TCP
2. DISTRICT BOUNDARY AREA = 2,140.2 AC



DATE	2	SHEET	2
DESIGNED BY	MTA	DATE	09/09/20
DRAWN BY	DMK	SCALE	1"=1200'
CHECKED BY	DMK	DATE	09/09/20
APPROVED BY	DMK	DATE	09/09/20

HYDROGEOLOGIC STUDY

WELLS WITHIN THE STUDY BOUNDARY

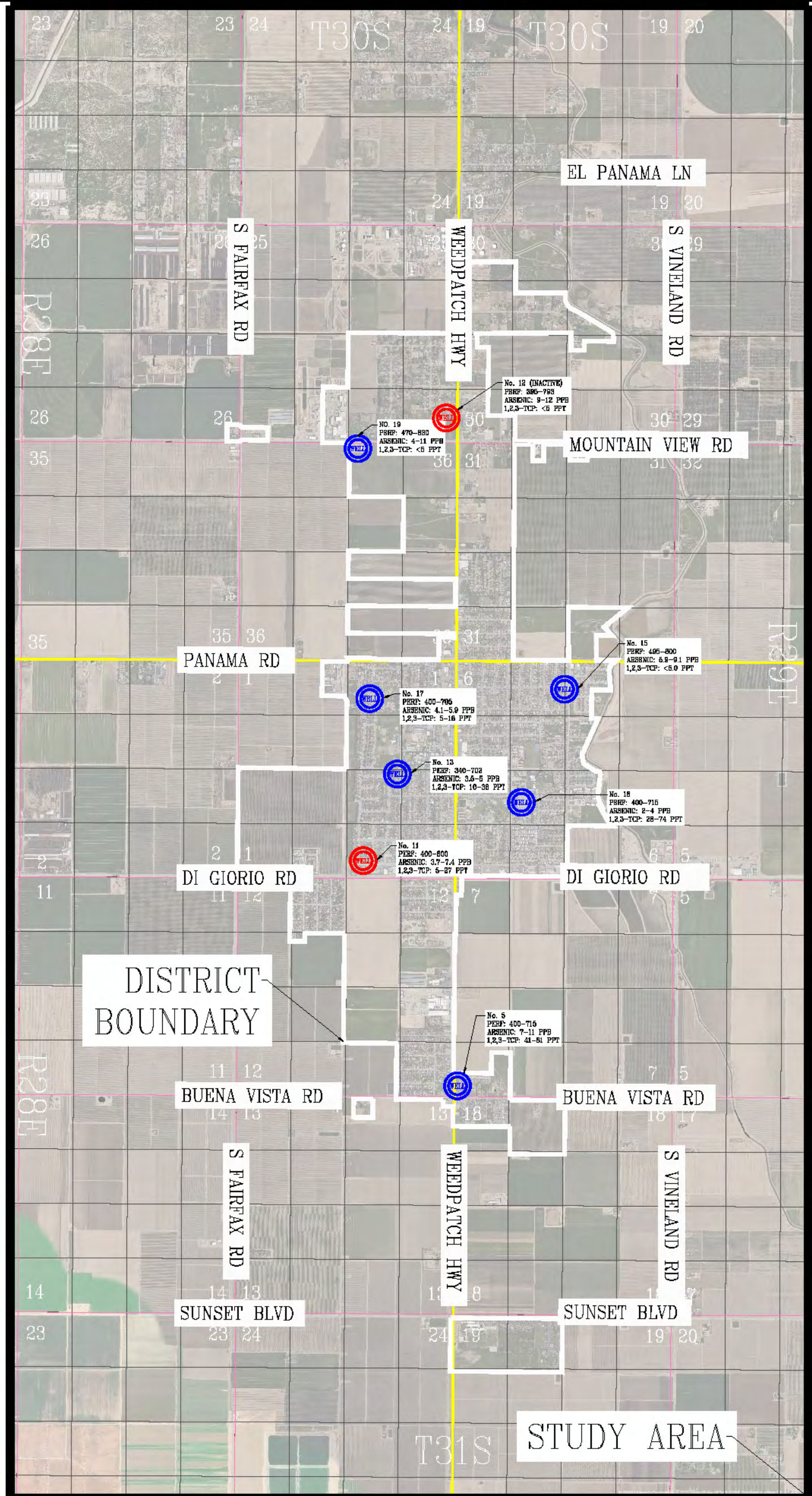
LAMONT PUBLIC UTILITY DISTRICT
KERN COUNTY, CALIFORNIA

DEE JASPAP & ASSOCIATES, INC.
CIVIL ENGINEERS

2020 LINCOLN ROAD, SUITE A
BAKERSFIELD, CALIFORNIA 93308
825 14th STREET #3
PORTERVILLE, CALIFORNIA 93257

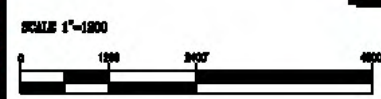
PHONE: 805 333-4788
FAX: 805 333-7998
PHONE: 559 781-8840
FAX: 559 783-2275

REV.	DATE	DESCRIPTION	BY
1			
2			
3			
4			
5			



- LEGEND:**
- DISTRICT BOUNDARY
 - ACTIVE WELLS
 - INACTIVE WELLS

- NOTES:**
1. WELLS 5, 13, 17, & 18 HAVE GAC TREATMENT FOR 1,2,3-TCP
 2. DISTRICT BOUNDARY AREA = 2,140.2 AC



DESIGNED BY	MTX
CHECKED BY	CMS
DATE	06/09/20
SCALE	1"=1200'
JOB NO.	
SHEET	1
OF	2

HYDROGEOLOGIC STUDY
 LPUD ACTIVE & INACTIVE WELLS

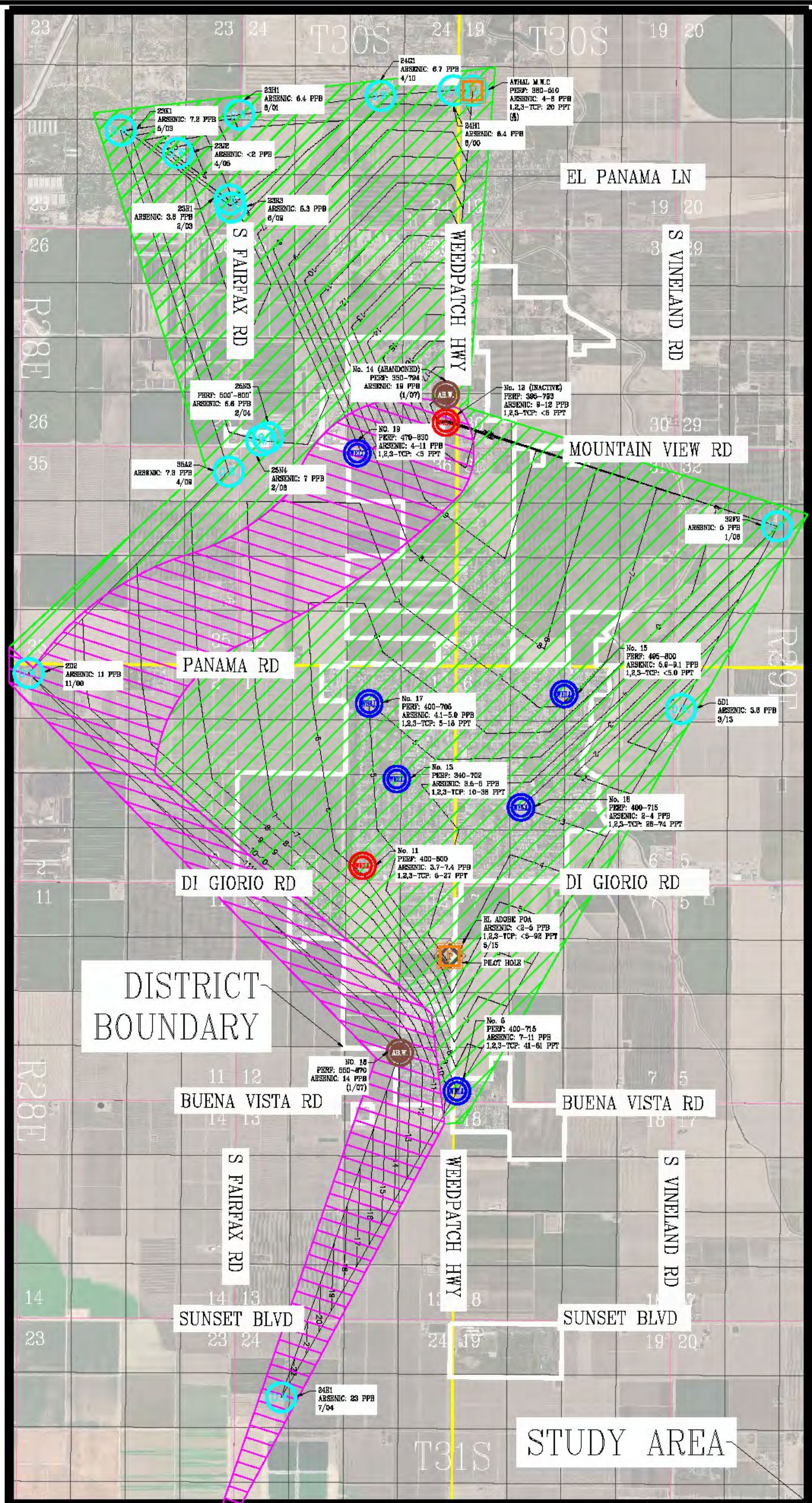
LAMONT PUBLIC UTILITY DISTRICT
 KERN COUNTY, CALIFORNIA

DEE JASPAR & ASSOCIATES, INC.
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2700 LINCOLN ROAD, SUITE A
 BAKERSFIELD, CALIFORNIA 93308
 800 N. MAIN STREET, #8
 PORTERVILLE, CALIFORNIA 93257

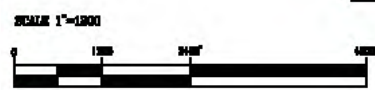
PHONE 805-338-4788
 FAX 805-338-4788
 PHONE 559-731-1288
 FAX 559-731-8275

REV.	DATE	DESCRIPTION	BY



- LEGEND:**
- DISTRICT BOUNDARY
 - ACTIVE WELLS
 - INACTIVE WELLS
 - ABANDONED WELLS
 - OTHER WELLS
 - TEST WELLS
 - PILOT HOLES

- NOTES:**
1. WELLS 5,13,17, & 18 HAVE GAC TREATMENT FOR 1,2,3-TCP
 2. DISTRICT BOUNDARY AREA = 2,140.2 AC



NO.	DATE	DESCRIPTION	BY
1	08/09/20	ISSUED FOR PERMITS	DEE JASPAR
2	11/20/07	REVISED	DEE JASPAR

HYDROGEOLOGIC STUDY
ARSENIC CONTOUR MAP

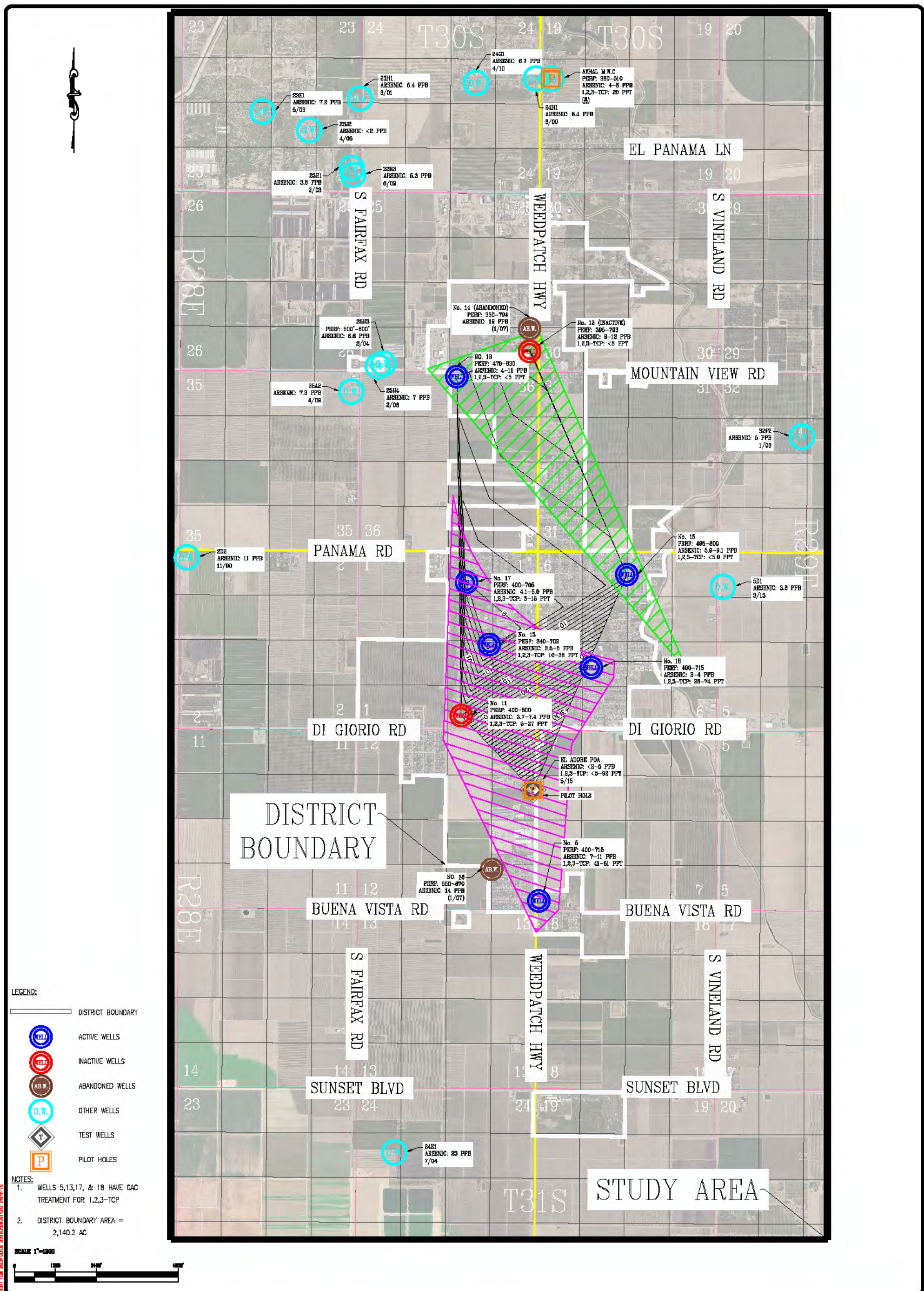
LAMONT PUBLIC UTILITY DISTRICT
 KERN COUNTY, CALIFORNIA

DEE JASPAP & ASSOCIATES, INC.
 CIVIL ENGINEERS

2020 LINCOLN ROAD, SUITE A
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PHONE: 805-331-1788
 805-331-7998
 559-781-8840
 FAX: 559-783-2275

REV.	DATE	DESCRIPTION	BY
1			
2			
3			
4			
5			



NO.	DATE	DESCRIPTION	BY
1			
2			

HYDROGEOLOGIC STUDY
1,2,3-TCP CONTOUR MAP

LAMONT PUBLIC UTILITY DISTRICT
 KERN COUNTY, CALIFORNIA

DEE JASPAP & ASSOCIATES, INC.
 CIVIL ENGINEERS

2020 LINCOLN ROAD, SUITE A
 BAKERSFIELD, CALIFORNIA 93308
 828 14th STREET #3
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PHONE: 805-333-4788
 FAX: 805-333-7998
 PHONE: 559-781-8840
 FAX: 559-783-2275

NO.	DATE	DESCRIPTION	BY
1			
2			

APPENDIX B

*Ken Schmidt & Associates, Inc.
Well Site Study Report*

PREPARED BY:

DEE JASPAR & ASSOCIATES, INC, 2730 UNICORN ROAD, BLDG A, BKFLD, CA 93308

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REPORT ON ARSENIC AND 1,2,3-TCP IN
GROUNDWATER IN AND NEAR THE LAMONT PUD

Draft Report - For Review Purposes Only

Prepared for
Dee Jaspar & Associates
Bakersfield, California

By
Kenneth D. Schmidt and Associates
Groundwater Quality Consultants
Bakersfield, California

June 2020

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INTRODUCTION	1
LAMONT PUD WELL DATA	1
DISTRIBUTION OF ARSENIC IN GROUNDWATER	3
DISTRIBUTION OF 1,2,3-TCP IN GROUNDWATER	5
RECOMMENDATIONS FOR NEW WELLS	7

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<u>No.</u>	<u>Title</u>	<u>Page</u>
1	Construction Data for Lamont PUD Wells	2

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<u>No.</u>	<u>Title</u>	<u>Page</u>
1	Locations of Selected Wells and Ranges for Arsenic and 1,2,3-TCP Concentrations	4

REPORT ON ARSENIC AND 1,2,3-TCP IN
GROUNDWATER IN AND NEAR THE LAMONT PUD

INTRODUCTION

Arsenic concentrations near or exceeding the MCL of 10 ppb and 1,2,3-TCP concentrations exceeding the MCL of 5 parts per trillion (ppt) have been common in groundwater in the Lamont vicinity. The purpose of this report is to provide information on the distribution of these two constituents in groundwater beneath the Lamont PUD and recommendations in terms of constructing future PUD wells.

LAMONT PUD WELL DATA

Table 1 provides construction data for ten Lamont PUD wells. Water from Wells No. 5, 13, 17, and 18 is being treated for 1,2,3-TCP removal. Well No. 11 is inactive due to high 1,2,3-TCP concentrations. Wells No. 12, 14, and 16 are inactive due to high arsenic concentrations. Three PUD wells (No. 13, 17, and 18) were perforated to depths ranging from 702 to 715 feet (bottom of perforations). One PUD Well (No. 5) was perforated to a depth of 750 feet. Four other wells (No. 11, 12, 14, and 19) were perforated to depths ranging from 793 to 830 feet. Two other wells (No. 15 and 16) were perforated to depths ranging from 870 to 850 feet. Annular seals were placed from the surface to depths ranging from 375 to 540 feet for Wells 16, 17, 18, and 19. The only other PUD well

TABLE 1-CONSTRUCTION DATA FOR LAMONT PUD WELLS

<u>Well No.</u>	<u>Date Drilled</u>	<u>Depth Drilled (feet)</u>	<u>Casing Diameter (feet)</u>	<u>Cased Depth (feet)</u>	<u>Perforated Interval (feet)</u>	<u>Annular Seal (feet)</u>
5	6/67	755	16	750	400-750	0-100
11	6/67	800	16	800	400-800	0-100
12	7/14	820	14	793	395-793	0-100
13	2/71	720	14	702	348-702	0-50
14	2/92	970	14	947	350-794	N.A.
15	12/92	895	16	880	495-800	0-50 & 400-455
16	8/94	900	16	870	550-870	0-540
17	3/04	800	16	725	400-705	0-380
18	12/05	810	16	735	400-715	0-375
19	6/14	900	16	850	470-830	0-450

with a deep annular seal was Well No. 15 (from 400 to 455 feet).

DISTRIBUTION OF ARSENIC IN GROUNDWATER

Figure 1 shows the distribution of arsenic in well water in the Lamont area. The lowest arsenic concentrations (2 to 6 ppb) in water have been from Lamont PUD Wells No. 13, 17, and 18, and at the Athal Mutual W.C. pilot hole. All of these wells and the pilot hole tapped groundwater above a depth of 715 feet. In contrast, the highest arsenic concentrations (14 to 19 ppb) were found in water from Lamont PUD wells No. 14 and 16. Well 16 was perforated to a depth of 870 feet, whereas Well No. 14 was perforated to a depth of 784 feet (bottom of perforations). Moderately high arsenic concentrations (7.5 to 11 ppb) were found in water from Lamont PUD Wells No. 15 and 19. These wells tap groundwater above depths ranging from 870 to 880 feet.

Additional information on the vertical distribution of arsenic in the groundwater was obtained from reverse rotary pilot holes for Lamont PUD Well No. 19 and the Athal Mutual W.C. well (located about half a mile north of the north boundary of the PUD, just east of Weed Patch Highway) and a casing hammer test well for the El Adobe POA (located about one quarter mile south of Di Giorgio Road and just west of the Weed Patch Highway. At Well No. 19, water samples were collected from six isolated in-

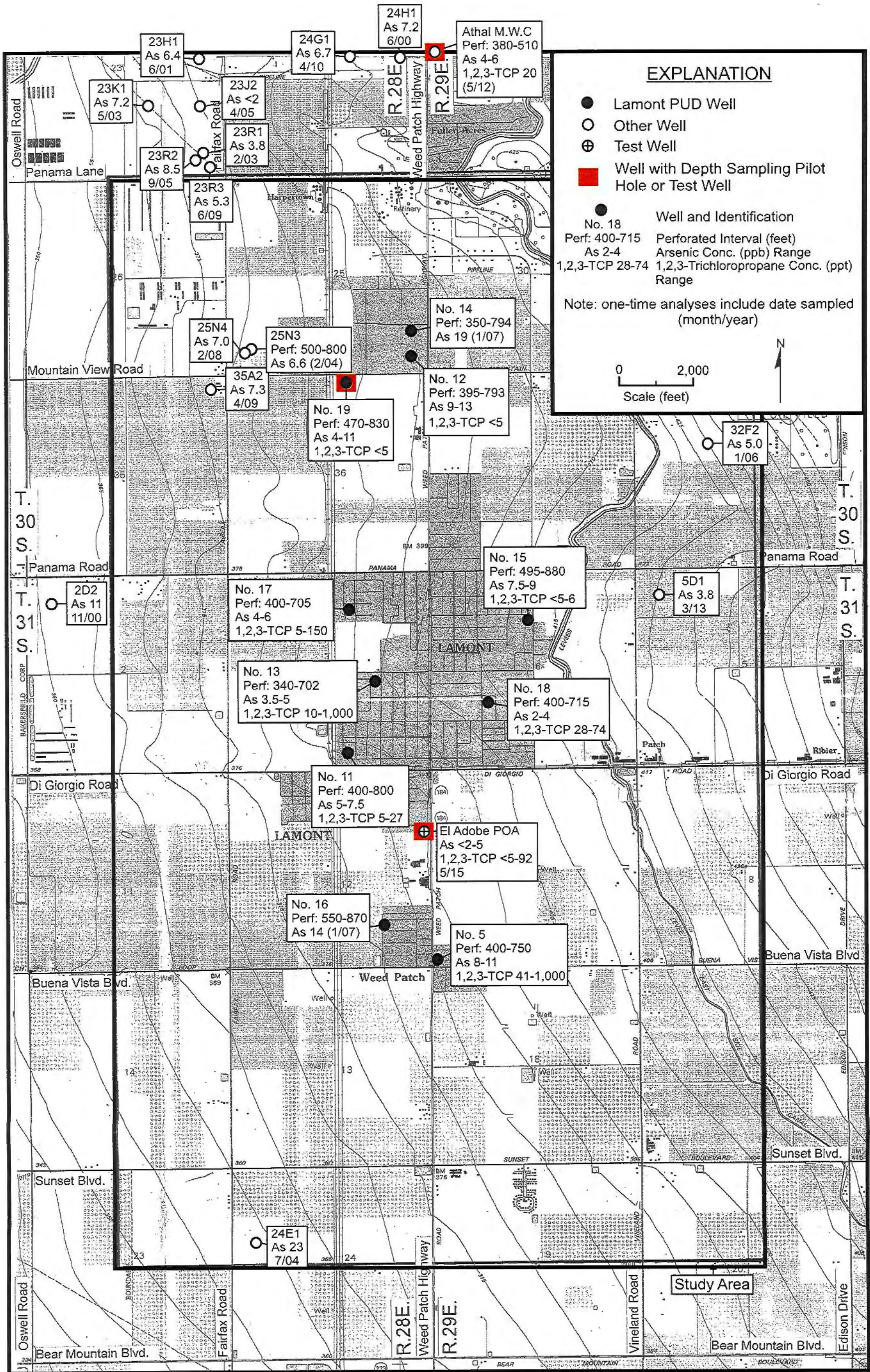


FIGURE 1-LOCATIONS OF SELECTED WELLS AND RANGES FOR ARSENIC AND 1,2,3-TCP CONCENTRATIONS

tervals between 472 and 895 feet in depth. Arsenic concentrations ranged from 4 to 6 ppb in four samples collected from above a depth of 675 feet. Arsenic concentrations ranged from 7 to 9 ppb in two samples that were collected from between 812 and 895 feet in depth. At the Athal Mutual W.C. pilot hole, water samples were collected from three isolated intervals between 380 and 510 feet in depth. Arsenic concentrations in these intervals ranged from 4 to 6 ppb. At the El Adobe POA test well, water samples were collected from six isolated intervals between 357 and 900 feet in depth. Arsenic concentrations in five samples from above a depth of 660 feet were 2 ppb or less. The arsenic concentrations in the deepest sample (897 to 900 feet) was 5 ppb.

Overall, the lowest arsenic concentrations have been found in water samples from above a depth of 720 feet. The lowest arsenic concentrations were found at the El Adobe POA test well. The highest arsenic concentrations have been found in water samples from below a depth of about 800 feet.

DISTRIBUTION OF 1,2,3-TCP IN GROUNDWATER

1,2,3-TCP has been found in shallow groundwater throughout the Lamont area. The highest concentrations (1,000 ppb) were found in water from Lamont PUD Wells No. 5 and 13. The lowest

concentrations (less than 10 ppt) were found in water from Lamont PUD Wells No. 15 and 19. Wells No. 12, 15 and 19 are the only Lamont PUD wells with 1,2,3-TCP concentrations consistently less than the MCL of 5 ppt. Wells No. 12 and 19 are located within a quarter of a mile of each other.

Information on the vertical distribution of 1,2,3-TCP was obtained at the same well sites as previously discussed for arsenic. At Lamont PUD Well No 19, 1,2,3-TCP was not detected in samples from six isolated intervals below a depth of 472 feet. At the Athal Mutual W.C. pilot hole, 1,2,3-TCP concentrations ranged from 13 to 20 ppt in two samples from above a depth 461 feet. The 1,2,3-TCP concentration in the deepest sample at that site (490 to 510 feet) was less than 5 ppt. At the El Adobe POA test well, a 1,2,3-TCP concentration of 92 ppt was found from the shallowest interval (357 to 360 feet in depth). 1,2,3-TCP concentrations in samples from below a depth of 457 feet were less than 10 ppt. 1,2,3-TCP concentrations exceeding 5 ppt in some of the samples from below a depth of 467 feet are attributed to the influence of one or more well conduits in the vicinity of the test well. These are likely abandoned wells that were perforated opposite both shallow and deep groundwater and were not properly destroyed.

Overall, 1,2,3-TCP concentrations are indicated to be less than the MCL of 10 ppt in most groundwater below a depth of about 480 feet in the Lamont area (at sites not influenced by well conduits).

RECOMMENDATIONS FOR NEW WELLS

It is difficult to develop large capacity wells in the Lamont area that produce water that has both arsenic and 1,2,3-TCP concentrations below the respective MCLs. If only arsenic was the concern, new wells could be developed to produce water with arsenic concentrations less than the MCL by perforating no deeper than about 720 feet. If only 1,2,3-TCP was the concern, new wells could be developed to only be perforated below a depth of about 480 feet, and to be sealed above the overlying strata.

The geologic logs for the Lamont PUD Well No. 19 and the El Adobe POA test well, indicated that the thickness of sand and gravel layers between about 480 and 720 feet in depth is sufficient to allow well yields of about 1,500 gpm of water that would not need to be treated. The type of construction recommended is perforating from about 480 to 720 feet in depth with an annular seal extending from a depth of about 450 feet to the surface. However, a problem with such a well at some locations (such as at the El Adobe POA test well) is that 1,2,3-TCP con-

centrations exceeding the MCL of 5 ppt could be in the pumped water due to well conduits in the vicinity. Thus an evaluation of well conduits within about one-third of a mile of the proposed new well site should be done. Otherwise, it is more straight forward to develop new PUD wells that will produce arsenic concentrations less than about 6 ppb. Such wells would generally be no deeper than about 720 feet, and probably could produce in the range of 1,000 to 1,500 gpm. But treatment for 1,2,3-TCP may be necessary.

APPENDIX C

Well Completion Reports

PREPARED BY:

DEE JASPAR & ASSOCIATES, INC, 2730 UNICORN ROAD, BLDG A, BKFLD, CA 93308

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Well 05?

Lyle E. Williams

Schofield Road South of Kimberlina

Wasco, Calif. 93280

June 10, 1967

Lamont Public Utility District,
11003 Main Street,
Lamont, California. Weed Patch # 5

LOG

0 - 8 Top Soil
8 - 25 Clay
25 - 35 Sand
35 - 48 Rocks & Gravel
48 - 65 Silty Clay
65 - 82 Sand
82 - 90 Gravel
90 - 135 Clay
135 - 160 Gravel
160 - 175 Clay & Gravel
175 - 230 Clay
230 - 235 Gravel
235 - 240 Clay
240 - 245 Gravel
245 - 285 Clay
285 - 370 Gravel
370 - 383 Clay
383 - 415 Gravel
415 - 436 Clay
436 - 440 Gravel
440 - 456 Clay
456 - 463 Gravel
463 - 472 Clay
472 - 485 Gravel
485 - 515 Clay
515 - 520 Clay & Rocks
520 - 535 Yellow Clay
535 - 580 Clay
580 - 600 Gravel
600 - 630 Clay
630 - 640 Gravel
640 - 675 Clay Gravel
675 - 733 Clay
733 - 742 Cemented Sand
742 - 745 Clay
745 - 755 Cemented Sand

100 Feet 30" Conductor
400 Feet 16" 5/16 - blank casing
350 Feet 16" 5/16 with 5/16
filled slots - perforated casing
750 Feet 16" O. D. 5/16 Wall Kaiser Steel

Lyle E. Williams

Schafeld Road South of Kimberlino

Wasco, Calif. 93280

well 11

June 6, 1967

Lamont Public Utility District
11003 Main Street
Lamont, California. Lamont # 11

LOG

- 0 - 13 Sand
- 13 - 43 Clay
- 43 - 45 Sand
- 45 - 50 Gravel Clay
- 50 - 75 Gravel
- 75 - 80 Clay Gravel
- 80 - 100 Clay
- 100 - 200 Gravel
- 200 - 205 Rock Clay
- 205 - 210 Gravel Rocks
- 210 - 220 Clay
- 220 - 245 Clay Gravel
- 245 - 265 Gravel
- 265 - 275 Clay
- 275 - 310 Gravel
- 310 - 335 Clay
- 335 - 345 Clay Gravel
- 345 - 350 Clay
- 350 - 363 Gravel
- 363 - 370 Clay
- 370 - 435 Gravel
- 435 - 490 Clay
- 490 - 496 Gravel
- 496 - 535 Gravel & Rocks
- 535 - 540 Clay Gravel
- 540 - 560 Sand & Gravel
- 560 - 565 Clay & Gravel cement
- 565 - 575 Clay
- 575 - 615 Sand & Gravel
- 615 - 664 Gravel
- 664 - 710 Clay
- 710 - 720 Gravel
- 720 - 725 Clay Gravel
- 725 - 735 Clay
- 735 - 750 Gravel
- 750 - 755 Clay & Gravel
- 755 - 760 Clay
- 760 - 765 Gravel
- 765 - 770 Clay & Gravel
- 770 - 785 Gravel
- 785 - 800 Y. Clay

- 100 Feet 30" 5/16 Cemented
- 400 Feet 16" 5/16 - blank casing
- 400 Feet 16" 5/16 with
- 5/32 milled slots - perforated casing.
- 800 Feet 16" O.D. 5/16 Wall Kaiser Steel

LEARN
PUBLIC HEALTH

WELLS

Log - Well No. 6

0 - 20	Top soil
20 - 35	Coarse sand
35 - 60	Fine sand
60 - 80	Yellow sandy clay
80 - 135	Yellow clay
135 - 166	Coarse sand
166 - 180	Yellow clay
180 - 230	Coarse sand
230 - 342	Yellow clay
342 - 357	Coarse sand and gravel
357 - 365	Yellow clay
365 - 380	Coarse sand and gravel
380 - 395	Yellow clay
395 - 415	Coarse sand and gravel
415 - 430	Yellow clay
430 - 460	Coarse sand and gravel
460 - 505	Yellow clay
505 - 535	Coarse sand
535 - 553	Yellow clay
553 - 583	Coarse sand
583 - 600	Yellow clay

D. W. Slocum, Driller

DUPLICATE
Retain this copy

DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

State Well No.

Other Well No.

(1) OWNER:
Name: W. J. BROWN
Address: 110000, UNIT

(2) LOCATION OF WELL:
County: ROSTON
Township, Range, and Section: 35.13 R20N 30E, 1 South
Distance from slides, roads, railroads, etc.: 5000' CORNER OF 11-11
AND 1100' FROM SITE, IN 1100-18

(3) TYPE OF WORK (check):
New Well Deepening Reconditioning Destroying
If destruction, describe material and procedure in item 11.

(4) PROPOSED USE (check):
Domestic Industrial Municipal Irrigation Test Well Other

(5) EQUIPMENT:
Rotary Cable Other

(6) CASING INSTALLED:

STEEL		OTHER		Diam.	Gage or Wall	Diameter of Hole	From ft.	To ft.
SINGLE	DOUBLE							
<input type="checkbox"/>	<input type="checkbox"/>							
0	24	1 1/2	1 1/2	24		0	720	

Size of shoe or well floor: _____ Size of gravel: _____
Describe font: _____

(7) PERFORATIONS OR SCREEN:

From ft.	To ft.	Perf. per row	Rows per ft.	Size in. x in.
34	700	12		1/2 x 3/8

(8) CONSTRUCTION:
Was a surface sanitary seal provided? Yes No To what depth: 50 ft.
Were any struts sealed (against pollution)? Yes No If yes, state depth of struts:
From _____ ft. to _____ ft.
From _____ ft. to _____ ft.
Method of casing: _____

(9) WATER LEVELS:
Depth at which water was first found, if known: _____ ft.
Standing level before perforation, if known: _____ ft.
Standing level after perforation and deepening: _____ ft.

(10) WELL TESTS:
Was pump test made? Yes No If yes, by whom: _____
Yield: _____ gal./min. with _____ ft. depression after _____ min.
Temperature of water: _____ Was a chemical analysis made? Yes No
Was electric log made of well? Yes No If yes, attach copy

(11) WELL LOG:
Total Depth: 720 ft. Depth of completed well: 720

Formation: Describe by color, character, size of material, and structure

Depth (ft.)	Material
0 to 150	Hard & rock
15	72 Sand & clay
72	96 Sand
96	129 Sand & clay
129	141 Sand
141	172 Sand & clay
172	212 Sand
212	228 Sand & clay
228	269 Sand
269	322 Sand
322	345 Sandy clay
345	389 Sand
389	405 Clay
405	433 Sand
433	442 Sand
442	444 gravel impure sand
444	456 Sand clay mixed zone
456	476 Sand
476	500 Clay & sand
500	520 Sand & gravel
520	537 Sand & clay
537	563 Sand
563	571 Sand
571	590 Sand
590	671 Sand
671	684 Sand & clay
684	687 Sand & clay
687	689 Sand
689	700 Sand

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and I believe it true to the best of my knowledge and belief.
NAME: W. J. BROWN (Person, firm, or corporation) (Typed or printed)
Address: 110000, UNIT
(SIGNED) _____ (Well Driller)
License No. 110000 Dated: 10-17-19

SKETCH LOCATION OF WELL ON REVERSE SIDE

DWR USE ONLY - DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Page of
Owner's Well No. No. **399283**
Date Work Began 8-1-94 Ended 8-15-94
Local Permit Agency Kern Co. Environmental Health
Permit No. KH-184-94 Permit Date 6-30-94

GEOLOGIC LOG

ORIENTATION () VERTICAL HORIZONTAL ANGLE (SPECIFY)

DEPTH TO FIRST WATER (Ft.) BELOW SURFACE

DEPTH FROM SURFACE		DESCRIPTION <i>Describe material, grain size, color, etc.</i>
Ft.	to Ft.	
0	50	Top Soil
50	65	Clay
65	85	Coarse Sand
85	115	Sand
115	120	Clay and Sand
120	160	Sand and Clay
160	210	Sand
210	255	Coarse Sand
255	280	Clay
280	340	Coarse Sand
340	360	Clay
360	380	Sand and Clay
380	410	Clay and Sand
410	430	Clay
430	440	Sand
440	450	Clay and Sand
450	475	Sand
475	530	Clay
530	560	Sand
560	585	Clay
585	660	Coarse Sand
660	685	Clay and Sand
685	715	Sand
715	750	Coarse Sand
750	765	Clay
765	800	Sand
800	820	Clay and Sand
820	855	Coarse Sand
855	900	Clay

TOTAL DEPTH OF BORING 900 (Feet)
TOTAL DEPTH OF COMPLETED WELL 870 (Feet)

WELL OWNER

Name Lamont P.U.D.
Mailing Address 8624 Sagreue
Lamont CA. 93241
CITY STATE ZIP

WELL LOCATION

Address
City
County
APN Book 185 Page 121 Parcel 01
Township 31 Range 28 Section 12
Latitude NORTH Longitude WEST
DEG. MIN. SEC. DEG. MIN. SEC.

LOCATION SKETCH

WEST EAST

ACTIVITY ()
 NEW WELL
MODIFICATION/REPAIR
 Deepen
 Other (Specify)

DESTROY (Describe Procedure and Materials Under "GEOLOGIC LOG")
 PLANNED USE(S)
()
 MONITORING
WATER SUPPLY
 Domestic
 Public
 Irrigation
 Industrial
 "TEST WELL"
 CATHODIC PROTECTION
 OTHER (Specify)

SOUTH

Illustrate or Describe Location of Well from Landmarks such as Roads, Buildings, Fences, Rivers, etc. PLEASE BE ACCURATE & COMPLETE.

DRILLING METHOD REVERSE FLUID WATER

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL (Ft.) & DATE MEASURED

ESTIMATED YIELD* (GPM) & TEST TYPE

TEST LENGTH (Hrs.) TOTAL DRAWDOWN (Ft.)

* May not be representative of a well's long-term yield.

DEPTH FROM SURFACE Ft. to Ft.	BORE-HOLE DIA. (Inches)	CASING(S)					ANNULAR MATERIAL						
		TYPE ()				MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)	TYPE			
		BLANK	SCREEN	CON- DUCTOR	FILL PIPE								
0 : 30	42			X		Steel	30	.250		X			
0 : 550	28	X				"	16	.312				X	1" birdseye
550 : 870			X			"	"	"	.090				

ATTACHMENTS ()

Geologic Log
 Well Construction Diagram
 Geophysical Log(s)
 Soil/Water Chemical Analyses
 Other

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME F.P.I. WELL DRILLING CO. INC.
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

P.O. BOX 1477 SHAFTER CA. 93263
ADDRESS CITY STATE ZIP

Signed [Signature] 9-23-94 612888
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C&T LICENSE NUMBER

APPENDIX 8

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0 North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 Flood Protection Measures of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The horizontal datum was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NCAA, NIMS12
National Geodetic Survey
SSM-C-3, #9202
1315 East-West Highway
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was derived from USDA - Farm Service Agency - Aerial Photography Field Office dated 2005 and from U.S. Geological Survey Digital Orthophoto Quadrangles produced at a scale of 1:12,000 from photography dated 1992 or later.

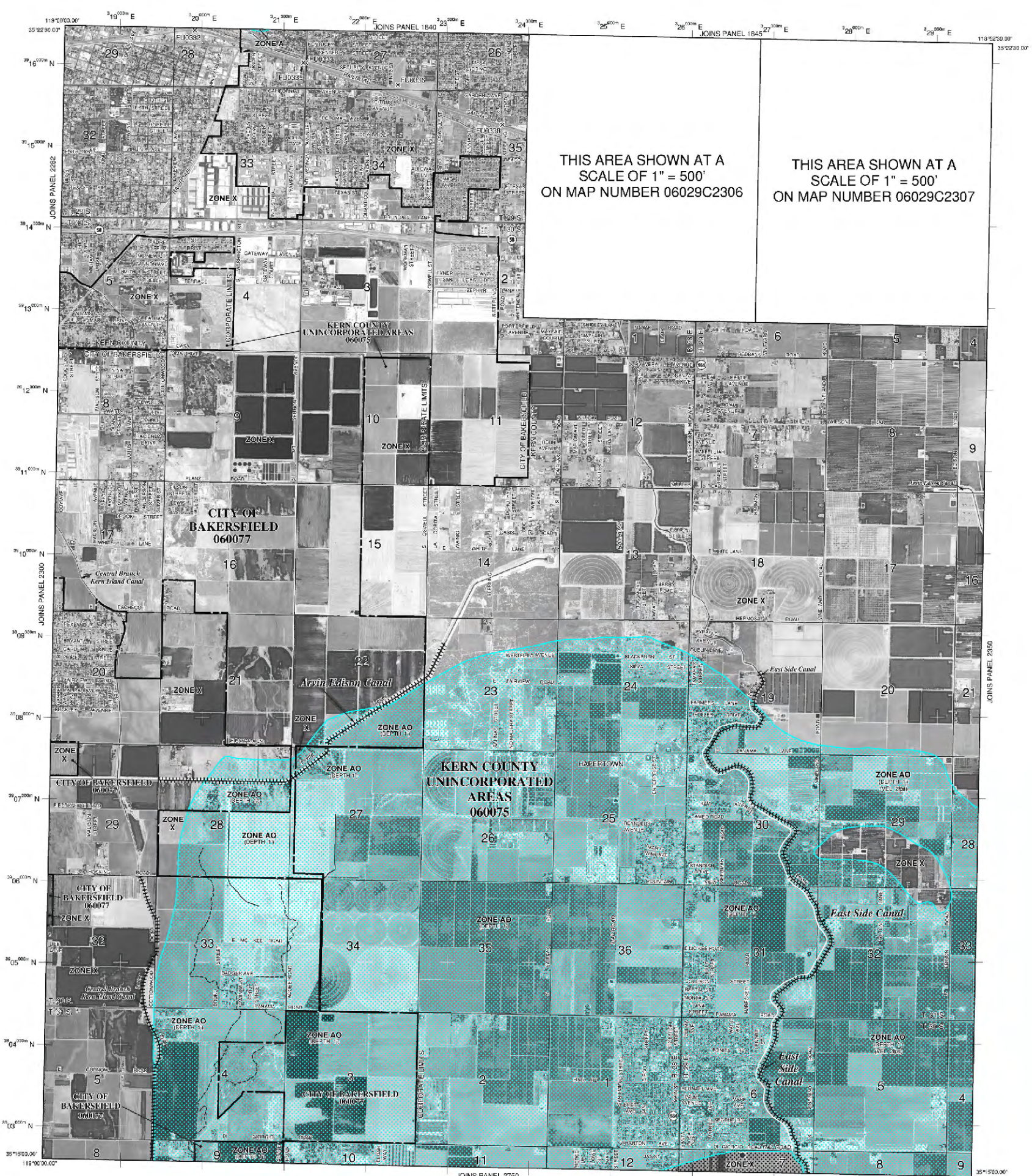
This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9520 and its website at <http://www.msc.fema.gov>.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov>.



THIS AREA SHOWN AT A SCALE OF 1" = 500' ON MAP NUMBER 06029C2306

THIS AREA SHOWN AT A SCALE OF 1" = 500' ON MAP NUMBER 06029C2307

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AV, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A
No Base Flood Elevations determined.

ZONE AE
Base Flood Elevations determined.

ZONE AH
Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO
Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of shallow fan flooding, velocities also determined.

ZONE AR
Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently abandoned. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE ARB
Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE AV
Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE
Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X
Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depth of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE D
Areas determined to be outside the 0.2% annual chance floodplain.

ZONE E
Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
Base Flood Elevation line and value; elevation in feet
Base Flood Elevation value where uniform within zone; elevation in feet

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

△ Cross section line
⊕ Truncated line
97°37'30" 32°22'30"
42°75'00"N
6002000 M
5000-foot grid ticks: California State Plane coordinate system, V zone (FIPS2006 9406), Lambert Conformal Conic

EX5516 x Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5 Water hole

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 26, 2008
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-658-6820

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2325E

FIRM FLOOD INSURANCE RATE MAP

KERN COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 2325 OF 4125
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KERN COUNTY	060075	2325	E
BAKERSFIELD CITY OF	060077	2325	E

Refer to User's Note: This Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 06029C2325E

EFFECTIVE DATE SEPTEMBER 26, 2008

Federal Emergency Management Agency

NOTES TO USERS

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The projection used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The horizontal datum was NAD83. GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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NGS Information Services
NIMA, JNCS12
National Geodetic Survey
55MC-3, #502
1315 East-West Highway
Silver Spring, MD 20910-3282

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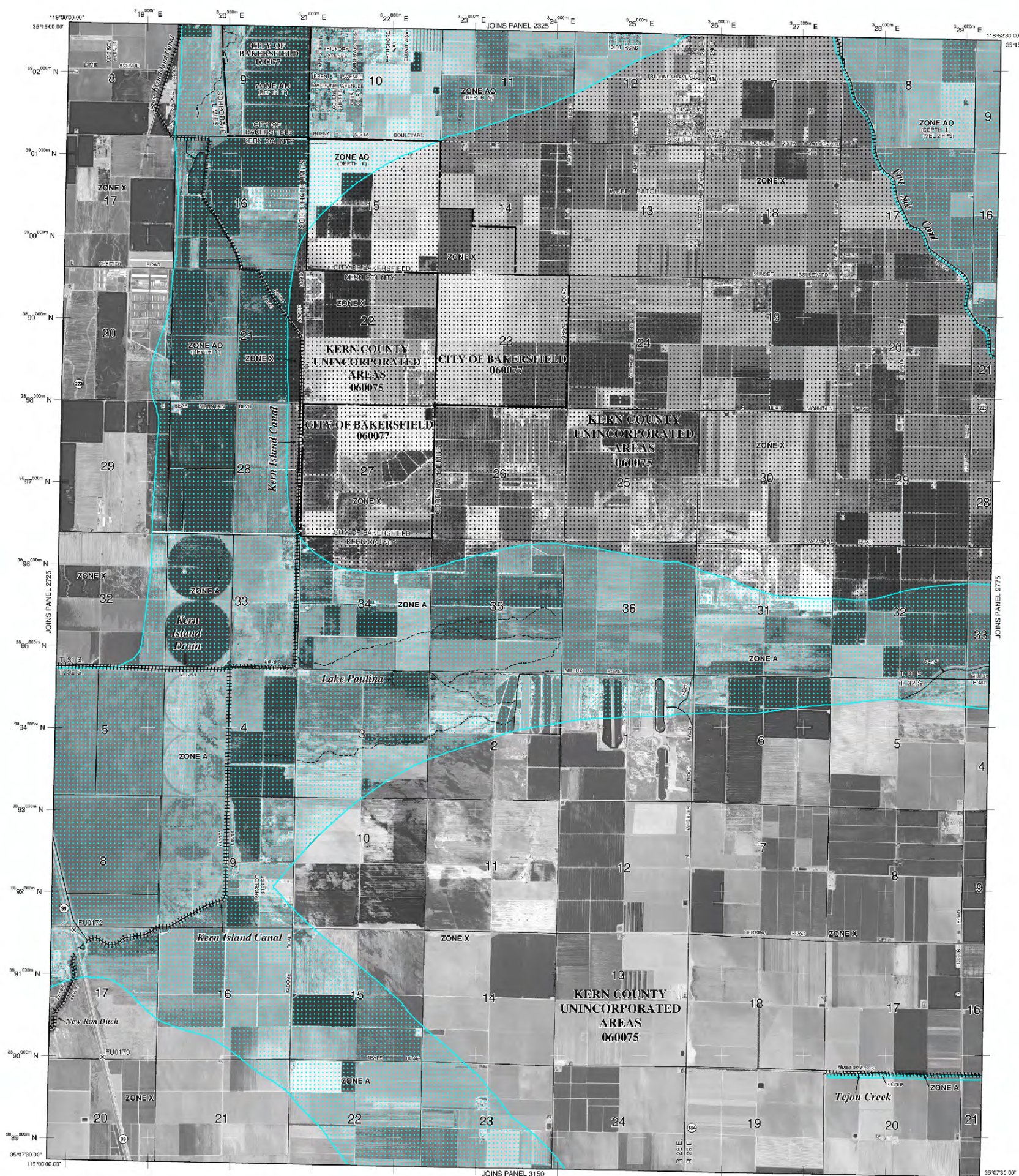
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LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AR9, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

ZONE A
Base Flood Elevations determined.

ZONE AE
Base Flood Elevations determined.

ZONE AH
Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO
Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR
Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently abandoned. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE AR9
Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V
Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE
Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X
Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X
Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D
Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1600-meter Universal Transverse Mercator Grid Zone 11
- 5000-foot grid floor; California State Plane coordinate system, V zone (FIPSZONE 5405), Lambert Conformal Conic
- Bench mark (see explanation in Notes to Users section of this FIRM map)
- River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 26, 2008
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

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NFIP

PANEL 2750E

FIRM
FLOOD INSURANCE RATE MAP
KERN COUNTY,
CALIFORNIA
AND INCORPORATED AREAS

PANEL 2750 OF 4125
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KERN COUNTY	060075	2750	E
BAKERSFIELD, CITY OF	060077	2750	C

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MAP NUMBER
06029C2750E

EFFECTIVE DATE
SEPTEMBER 26, 2008

Federal Emergency Management Agency