

WASTEWATER TREATMENT AND DISPOSAL FACILITIES IMPROVEMENT PROJECT
LATON COMMUNITY SERVICES DISTRICT

INITIAL STUDY CHECKLIST

1. **Project title:** Wastewater Treatment and Disposal Facilities Improvement Project
2. **Lead agency:** Laton Community Services District
20798 S. Fowler Avenue
Laton, CA 93242
3. **Contact person:** James H. Wegley, Dennis R. Keller/James H. Wegley
Consulting Civil Engineers
(559) 732-7938
4. **Project location:** 21200 S. Fowler Avenue
Laton, CA 93242

Portions of Sections 22 and 27, Township 17 South,
Range 21 East, MDB&M.

Fresno County Assessor Parcel numbers 057-090-019,
057-090-032, 057-090-033, 057-090-046,
5. **Latitude, Longitude:** 36°25'49.6" N, 119°40'59.3" W
6. **General plan designation:** Public Facilities (waste disposal) – Laton Community Plan (2010)
7. **Zoning:** Recreational (RE), Limited Agriculture (AL-20)
8. **Description of project:** The Project addresses wastewater treatment process reliability, physical deficiencies and improve effluent disposal capabilities on District-owned land. The Project includes construction of headworks, pump station, aeration and settling tanks/basins, sludge drying and associated pipelines to replace existing facilities. Project also includes solar panels for plant power usage. Project may include wastewater reclamation treatment and disposal pipeline for reclaimed water use at Kingston Park (County of Fresno).
9. **Surrounding land uses and setting:** Rural area adjacent to the Kings River and separated from the community of Laton by irrigation canals. Surrounding land uses include recreational, agricultural, residential and educational.
10. **Other public agencies whose approval is required** County of Fresno
State Water Resources Control Board, California;
San Joaquin Valley Air Pollution Control District; and
Kings River Conservation District.

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, as indicated by the checklist and subsequent discussion on the following pages.

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature James H. Weoley

Date March 10, 2020

James H. Weoley, Consulting Civil Engineer
Printed name

Laton Community Services District
For

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Issues:

I. AESTHETICS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. **No Impact.** The Proposed Project does not result in a change in the scenic characteristics of the site and surrounding areas. The Proposed Project would occur on District owned lands which are utilized for existing wastewater treatment and disposal facilities. The Proposed Project site is surrounded by mature trees and other vegetation and levees that blend into existing surroundings. The site has been in use since the early 1960s as a wastewater treatment plant.
- b. **No Impact.** There are no scenic resources on or near the Proposed Project site. The Project is not located adjacent to or near a state scenic highway. The Proposed Project site is surrounded by mature trees and other vegetation and levees that blend into existing surroundings.
- c. **No Impact.** The Proposed Project would occur on District owned lands which are utilized for existing wastewater treatment and disposal facilities, including concrete structures, buildings and pond levees. The Proposed Project site is surrounded by mature trees and other vegetation and levees that blend into existing surroundings.
- d. **No Impact.** The Proposed Project would not create a new source of substantial light or glare. New facilities will be replacing existing facilities resulting in no net change in lighting at the site of the Proposed Project. The Proposed Project site is shielded by mature trees and other vegetation and levees.

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**II. AGRICULTURE & FORESTRY
RESOURCES**

Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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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:**

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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 type="checkbox"/> | <input checked="" 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 in 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 type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

- a. **No Impact.** The Proposed Project will occur on land used for existing facilities and will not remove any land from agricultural production.
- b. **No Impact.** The Proposed Project site is currently zoned RE (Recreational) and AL-20 (Limited Agriculture) which have land use designations as Public Facilities (waste treatment).
- c. **No Impact.** There are no forest lands within the limits of the Proposed Project.
- d. **No Impact.** There are no forest lands within the limits of the Proposed Project.
- e. **No Impact.** See previous responses to Items (a) through (d).

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III. AIR QUALITY

Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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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 type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion

The air quality impacts from the construction activities and the annual operation and maintenance activities from the operation of the Proposed Project have been evaluated using the California Emissions Estimator Model (CalEEMod). The results have been compared against thresholds established by the San Joaquin Valley Air Pollution Control District and are estimated to be below any threshold. A summary of the emissions estimates is attached for reference.

- a. **No Impact.** The Proposed Project would not conflict with any applicable air quality plan. During construction, however, the District and the selected contractors would be required to comply with the San Joaquin Valley Air Pollution Control District's Regulation VIII.
- b. **No Impact.** Air emissions estimates for construction and operations did not exceed any Threshold of Significance.
- c. **No Impact.** Air emissions estimates for construction and operations do not indicate a significant increase for any non-attainment pollutant.
- d. **No Impact.** See response to Items (a), (b) and (c).
- e. **Less Than Significant Impact.** Potential exists for adjacent areas to be exposed to objectionable odors common to wastewater treatment. The facility utilizes aeration and associated treatment processes that maintain dissolved oxygen levels to minimize the potential for odors. Additionally, prevailing southeast winds move air away from the community. There are no known complaints of odor being emitted from the existing wastewater treatment plant.

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IV. BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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"/>

IV. BIOLOGICAL RESOURCES (continued)

Discussion

A Biological Evaluation Report was completed in May, 2019 that included a field survey completed in March, 2019. Identification of special status species included a search of the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California. The Executive Summary of the Report has been attached for reference.

- a. **Less Than Significant with Mitigation Incorporation.** The Report established that the potential exists for construction-related mortality and/or disturbances of western pond turtles, nesting raptors and birds, and roosting bats. The Report also established the potential for the loss of riparian habitat. The Report determined that the magnitude of the potential impacts could be reduced to a less than significant level through the incorporation of the following mitigation practices: scheduling of construction during low risk times of year, preconstruction surveys, environmental awareness training, avoidance of active nests and roosts and restoration to compensate for native riparian trees. Preventive measures shall be incorporated into construction documents to avoid potential impacts.
- b. **Less Than Significant with Mitigation Incorporation.** The Proposed Project site includes areas considered as "Disturbed Riparian" by the Report. This area consists of riparian woodland habitat that has been subjected to routine discing and mowing for vegetation control of non-native grasses. Construction could impact the riparian woodland native trees. The Report determined that the magnitude of the potential impacts could be reduced to a less than significant level through the incorporation of the following mitigation practices: survey of native trees and subsequent revegetation plan to compensate for the removal native riparian trees.
- c. **No Impact.** The biological field survey conducted in March, 2019 did not identify any wetlands on the Proposed Project site.
- d. **No Impact.** The Report determined that, although the Proposed Project site lies next to the Kings River, the site does not represent a specific wildlife corridor. Perimeter fencing separates the site from the Kings River. The Proposed Project does not result in feature that impedes movement of common native wildlife along the Kings River and its surroundings.
- e. **No Impact.** The Proposed Project does conflict with the General Plan Policies of Fresno County (2000). The Proposed Project Site does not present a change in the designated land uses for the site. See response to Item (b).
- f. **No Impact.** No habitat conservation plan has been identified for or that includes the Project area. Since the Proposed Project does not result in any change to existing land use and associated conditions, it not expected to conflict with any local, regional or state conservation plans.

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V. CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

A Class III Inventory/Phase I Survey was completed for the Proposed Project site in July, 2019 that included field surveys, record surveys and tribal contacts. Two (2) cultural resources, the Grant Canal and the Atchison, Topeka and Sante Fe railroad, were identified within the surveyed area; however, these resources lacked historical integrity to warrant consideration for the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR). The Management Summary of the Report is attached for reference.

- a. **No Impact.** The Survey report established that the cultural resources present within the Project area had been modified in the past and consequently lacked historic integrity. The Grant Canal had been changed from its original construction and alignment. The Survey report concluded that existing railroad bridge had been replaced two (2) times. Construction activities would not cause any change in the significance of the identified resources.
- b. **No Impact.** The Proposed Project site consists of actively maintained land areas around the structures and ponds. The elements of the Proposed Project will be constructed within the actively maintained lands. The Survey report did not identify presence of any archaeological resources within or adjacent to the Proposed Project site.
- c. **No Impact.** The Proposed Project site consists of actively maintained land areas around the structures and ponds. The elements of the Proposed Project will be constructed within the actively maintained lands. The Survey report did not identify presence of any paleontological or geological resources within the Proposed Project site.
- d. **No Impact.** The Proposed Project consists of construction activities within existing site features. The Survey report did not identify the presence of any tribal or associated resources. Tribal consultation requested the presence of a tribal monitor during earthwork activities. Measures shall be implemented during construction to address discovery of human remains or other archaeological resources.

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VI. GEOLOGY AND SOILS

Would the project:

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
- i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
- ii) Strong seismic ground shaking?
- iii) Seismic-related ground failure, including liquefaction?
- iv) Landslides?
- b) Result in substantial soil erosion or the loss of topsoil?
- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
- d) Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial risks to life or property?
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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VI. GEOLOGY AND SOILS (continued)

Discussion

- a. **No Impact.** The Proposed Project location is not shown in an area designated to be affected by active earthquake fault zones or landslide and liquefaction zones as reviewed through the California Geological Survey Information Warehouse web-based regulatory mapping tool.
- b. **No Impact.** Construction specifications for the Proposed Project will require compaction of all disturbed areas which will minimize the potential for erosion. The Proposed Project is located behind existing levees that will retain any soils if erosion occurs.
- c. **No Impact.** See response to Item (a).
- d. **No Impact.** Soil borings at the location of the Proposed Project did not indicate the presence of soil types with expansive characteristics. Soil boring information is attached for reference.
- e. **No Impact.** Criteria does not apply. The Proposed Project continues use of the existing land (soils) for the storage and disposal of treated wastewater effluent which demonstrates the capability of the soil to support this use.

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VII. GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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 type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. **Less than Significant Impact.** Estimates of greenhouse gases resulting from the construction activities and the annual operation and maintenance activities from the operation of the Proposed Project have been determined using the California Emissions Estimator Model (CalEEMod). The San Joaquin Valley Air Pollution Control District does not have an annual greenhouse emissions standard. The results are estimated to be below the interim threshold of 7,000 metric tons (MT) established by the California Air Resources Board. A summary of the emissions estimates is attached for reference.
- b. **No Impact.** The Proposed Project would not conflict with any applicable plan, policy or regulation adopted for reducing the emissions of greenhouse gases. The Proposed Project includes the installation of solar panels to produce electric power for the facilities.

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VIII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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VIII. HAZARDS AND HAZARDOUS MATERIALS (continued)

Discussion

- a. **Less than Significant Impact.** The operation of the Proposed Project will require periodic transport of chemicals used for wastewater treatment (liquid sodium hypochlorite) associated equipment operation (lubricants) and grounds maintenance (herbicides, etc). The quantities of such chemicals will not represent a significant hazard. The transport, use and storage of chemicals will be in accordance with regulatory requirements.
- b. **Less than Significant Impact.** The operation of the Proposed Project will require chemicals used for wastewater treatment (liquid sodium hypochlorite), associated equipment operation (lubricants) and grounds maintenance (herbicides, etc). The quantities of such chemicals will not represent a significant hazard. The Proposed Project site lies behind levees that separate it from the community and the Kings River.
- c. **Less than Significant Impact.** The boundary of the Proposed Project site lies within 200 feet of one school boundary; however, school classrooms are located approximately 1,100 feet away from the Project. A second school boundary lies about 1,200 feet away from the Proposed Project. Classrooms for this school are located approximately 1,400 feet away from the Project. The Proposed Project site and school properties are separated by two canals and associated levees.
- d. **No Impact.** The Proposed Project will not be constructed on a hazardous materials site. The Proposed Project site is not on the Cortese List.
- e. **No Impact.** The Proposed Project site is not located within an airport land use plan. The nearest public airstrip is approximately eight (8) miles away. Lemoore Naval Air Station lies approximately 15 miles away.
- f. **No Impact.** The Proposed Project site is not located near a private airstrip. The nearest private airstrip is approximately five (5) miles away. Lemoore Naval Air Station lies approximately 15 miles away.
- g. **No Impact.** There are no emergency response plans which involve the Proposed Project site.
- h. **No Impact.** Wildlands are not considered present within the Project area. The Proposed Project site consists of leveled actively managed land which is separated from other land uses by roadways and water courses. No changes in adjacent land uses are proposed.

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IX. HYDROLOGY AND WATER QUALITY

Would the project:

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

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IX. HYDROLOGY AND WATER QUALITY (continued)

Discussion

- a. **No Impact.** The wastewater facility associated with the Proposed Project operates under existing Waste Discharge Requirements (WDRs). New WDRs will be required if reclaimed water is used for irrigation of recreational areas. The Proposed Project will not change conditions subject to the WDRs. Construction requirements such as a Storm Water Pollution Prevention Plan (SWPPP) will be utilized to prevent water quality impacts. Operation of the wastewater facilities to meet the existing or new WDRs ensures that water quality standards are achieved.
- b. **No Impact.** The Proposed Project does not include any groundwater extraction facilities. The Proposed Project replaces existing facilities and will not result in community growth that would increase groundwater use. The Proposed Project includes the potential to utilize reclaimed water in lieu of domestic water supplies for irrigation of recreational areas (i.e., public park) which would reduce demands on the local groundwater.
- c. **No Impact.** The Proposed Project area consists of leveled, actively managed land, ponds and levees. Elements of the Proposed Project will be constructed at existing grades. No changes to existing grades are proposed. The Proposed Project would not substantially alter the existing drainage pattern of the area.
- d. **No Impact.** The Proposed Project site consists of leveled, actively managed land, storage ponds and levees. The Proposed Project would not substantially alter the existing drainage pattern of the area. Runoff occurring behind the levees remains within the Project site.
- e. **No Impact.** The Proposed Project area is not served by a stormwater drainage system. See response to Item (d).
- f. **No Impact.** The Proposed Project, whether during construction or following completion, would not degrade water quality. See response to Item (a).
- g. **No Impact.** The Proposed Project does not include dwelling units.
- h. **Less than significant Impact.** The treatment and storage facilities associated with the existing facilities and Proposed Project are located above the levees adjacent to the 100-year flood plain. Consequently, these elements will not impede or redirect flood flows. Although the reclaimed water pipelines will be constructed within the 100-year floodplain, the pipelines will be installed below grade and will not impede or redirect flood flows. National Flood Hazard Layer Firmelte maps are attached for reference.
- i. **No Impact.** The Proposed Project does not change the existing conditions of the Project area. No changes to existing levees are proposed. The wastewater treatment structures are located above the existing levees.
- j. **No Impact.** The Proposed Project site is located approximately 100 miles from the Pacific Ocean and separated by the coastal mountain ranges (elevation of approximately 3,000 ft). Consequently the Proposed Project site is not subject to inundation by tsunamis. The Proposed Project site is not located adjacent to an enclosed body of water that could be subject to a seiche. The Proposed Project site is not located in an area where mud flows occur.

WASTEWATER TREATMENT AND DISPOSAL FACILITIES IMPROVEMENT PROJECT
LATON COMMUNITY SERVICES DISTRICT

X. LAND USE AND PLANNING

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. **No Impact.** The Proposed Project area is located outside (south) of the unincorporated community of Laton. The Proposed Project is further separated from the community by the Grant Canal.
- b. **No Impact.** There are no conflicts between the Proposed Project and the Fresno County General Plan. The Proposed Project site consists of leveled and actively maintained land for wastewater disposal. A General Plan review was conducted for the construction of additional ponds in 2014 that did not establish any conflicts for the wastewater treatment and disposal facilities.
- c. **No Impact.** No habitat conservation plan has been identified for or that includes the Project area. Since the Proposed Project does not result in any change to existing land use and associated conditions, it not expected to conflict with applicable conservation plan or natural community conservation plan.

WASTEWATER TREATMENT AND DISPOSAL FACILITIES IMPROVEMENT PROJECT
LATON COMMUNITY SERVICES DISTRICT

XL MINERAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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"/>

Discussion

- a. **No Impact.** No portion of the Proposed Project is located within the California Mineral Land Classification System (CMLCS) Mineral Resource Zone (MRZ) or Aggregate Resource Area (ARA) study area as documented by the California Geological Survey Information Warehouse.
- b. **No Impact.** The Project Location is not delineated on Fresno County's General Plan as a locally important mineral resource recovery site.

WASTEWATER TREATMENT AND DISPOSAL FACILITIES IMPROVEMENT PROJECT
LATON COMMUNITY SERVICES DISTRICT

XII. NOISE

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 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"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

WASTEWATER TREATMENT AND DISPOSAL FACILITIES IMPROVEMENT PROJECT
LATON COMMUNITY SERVICES DISTRICT

XII. NOISE (continued)

Discussion

- a. **Less than Significant Impact.** During construction, the potential exists for noise to occur in excess of the Fresno County's General Plan standards. The Project's construction specifications will require construction activities to follow all applicable laws and limit noise generation. Due to the rural location and agricultural nature of the Proposed Project area, any noise created by construction would be consistent with agricultural equipment and would not adversely impact adjacent residents. The nearest residences lie between 600 and 700 feet from the Proposed Project site. Upon completion, the Proposed Project does not represent an increase in existing noise levels.
- b. **Less than Significant Impact.** The potential for construction-related vibrations exists. Due to the rural location and agricultural nature of the Proposed Project area, vibration resulting from construction would be consistent with agricultural equipment and would not adversely impact adjacent residents. The nearest residences lie between 600 and 700 feet from the Proposed Project site. Upon completion, the Proposed Project does not represent an increase in existing vibration levels.
- c. **No Impact.** The Proposed Project consists of elements to replace the existing treatment processes. Consequently, the Proposed Project will not represent an increase in existing noise levels.
- d. **No Impact.** The Project's construction specifications will require construction activities to follow all applicable laws and limit noise generation to eliminate the potential for substantial noise levels. See response to Item (a).
- e. **No Impact.** The Proposed Project site is not located within an airport land use plan. The nearest public airstrip is approximately eight (8) miles away. Lemoore Naval Air Station lies approximately 15 miles away.
- f. **No Impact.** The Proposed Project site is not located near a private airstrip. The nearest private airstrip is approximately five (5) miles away. Lemoore Naval Air Station lies approximately 15 miles away.

WASTEWATER TREATMENT AND DISPOSAL FACILITIES IMPROVEMENT PROJECT
LATON COMMUNITY SERVICES DISTRICT

XIII. POPULATION AND HOUSING

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. **No Impact.** The scope of Proposed Project consists of improvements that replace existing treatment facilities and include wastewater disposal options. Treatment and disposal capacities remain unchanged. The potential exists that additional building (housing) could occur on parcels within the Urban Development Boundary (UDB) of the community based upon available wastewater treatment and disposal capacity. The available capacity will limit population growth.
- b. **No Impact.** The Proposed Project occurs on District-owned land that does not include housing features. The Proposed Project does not displace or otherwise affect existing housing.
- c. **No Impact.** See response to Item (b).

WASTEWATER TREATMENT AND DISPOSAL FACILITIES IMPROVEMENT PROJECT
LATON COMMUNITY SERVICES DISTRICT

XIV. PUBLIC SERVICES

Would the project:

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

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

No Impact. The wastewater treatment and disposal facilities represent the only public services affected by the Proposed Project. No changes to service ratios, service times or other public service performance objectives will occur. Sufficient wastewater treatment and disposal capacity exists to prevent adverse environmental effects during the construction of improvements. Construction sequencing of improvements will also be used to minimize any potential impacts during construction.

WASTEWATER TREATMENT AND DISPOSAL FACILITIES IMPROVEMENT PROJECT
LATON COMMUNITY SERVICES DISTRICT

XV. RECREATION

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<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"/>

Discussion

- a. **No Impact.** The Proposed Project includes an alternative that would replace the existing irrigation system with a reclaimed water system. The proposed reclaimed water irrigation system would not represent a change in irrigation features. Consequently, no changes in park features would be observed that may increase the use of the park.
- b. **No Impact.** The Proposed Project does not include recreational facilities. The Proposed Project, however, includes an alternative that would replace the existing irrigation system with a reclaimed water system. Considerations associated with the reclaimed water system have been considered in other elements of this Study.

WASTEWATER TREATMENT AND DISPOSAL FACILITIES IMPROVEMENT PROJECT
LATON COMMUNITY SERVICES DISTRICT

XVI. TRANSPORTATION/TRAFFIC

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

WASTEWATER TREATMENT AND DISPOSAL FACILITIES IMPROVEMENT PROJECT
LATON COMMUNITY SERVICES DISTRICT

XVI. TRANSPORTATION/TRAFFIC (continued)

Discussion

- a. **No Impact.** The Proposed Project does not include any transportation-related elements. All existing transportation modes and routes will not be affected by the completion of the Proposed Project. All construction activities will be performed at the Proposed Project site which is owned by the District or within granted easements and would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness.
- b. **No Impact.** All construction activities will be performed on District owned land or within granted easements, which would not conflict with an applicable congestion management program.
- c. **No Impact.** The Proposed Project will not affect any air traffic patterns. The nearest airport is located approximately 5 miles away.
- d. **No Impact.** The Proposed Project does not include any features that will increase hazards. New facilities will be constructed adjacent to existing facilities and pipelines will be installed below grade and include restoration of existing grade surfaces.
- e. **No Impact.** The Proposed Project would not result in the alteration of the present access to the Proposed Project site. Therefore, adequate emergency access would be maintained.
- f. **No Impact.** The Proposed Project does not impact any transportation-related elements. See response to Item (a).

WASTEWATER TREATMENT AND DISPOSAL FACILITIES IMPROVEMENT PROJECT
LATON COMMUNITY SERVICES DISTRICT

XVII. UTILITIES AND SERVICE SYSTEMS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

WASTEWATER TREATMENT AND DISPOSAL FACILITIES IMPROVEMENT PROJECT
LATON COMMUNITY SERVICES DISTRICT

XVII. UTILITIES AND SERVICE SYSTEMS (continued)

Discussion

- a. **No Impact.** The wastewater facility associated with the Proposed Project operates under existing Waste Discharge Requirements (WDRs). The elements of the Proposed Project replace existing wastewater treatment and disposal capacity. Consequently, the Proposed Project will not change the overall facility features and conditions covered by the WDRs. Disposal of the treated effluent by reclamation will require additional WDRs.
- b. **No Impact.** The elements of the Proposed Project replace existing wastewater treatment and disposal capacity. New facilities and associated additional capacity are not proposed.
- c. **No Impact.** The Proposed Project does not include new storm water drainage facilities.
- d. **No Impact.** The Proposed Project does not require new water supplies.
- e. **No Impact.** The Proposed Project addresses wastewater treatment and disposal capacity. The Proposed Project does not result in additional wastewater flows (demands). The development of Proposed Project has established that adequate capacity exists.
- f. **No Impact.** The Proposed Project does not result in a change in the solid waste generation or disposal of the existing facilities. The construction phase of the Proposed Project will generate additional Solid waste on a temporary basis. Specifications will require proper handling and disposal of construction-related materials. In general, the construction-related materials (i.e., concrete, soil, etc.) can be recycled by the landfill facilities.
- g. **No Impact.** Specifications will require proper handling and disposal of construction-related materials.

WASTEWATER TREATMENT AND DISPOSAL FACILITIES IMPROVEMENT PROJECT
LATON COMMUNITY SERVICES DISTRICT

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. **Less Than Significant Impact.** As described in the previous sections, the Proposed Project will not result in any significant adverse impacts. Short-term related impacts that might occur during construction will be mitigated to a less than significant level based on Proposed Project design and/or construction specification requirements.
- b. **No Impact.** The Proposed Project is not part of a past or future project. No projects or associated elements have been identified that rely on the completion of the Proposed Project. Therefore, the individual considerations of the Proposed Project and their described potential impacts do not have related impacts that need to be collectively analyzed as part of other projects.
- c. **No Impact.** No direct or indirect adverse effects on the human population have been identified through the completion of this Initial Study.

APPENDIX A

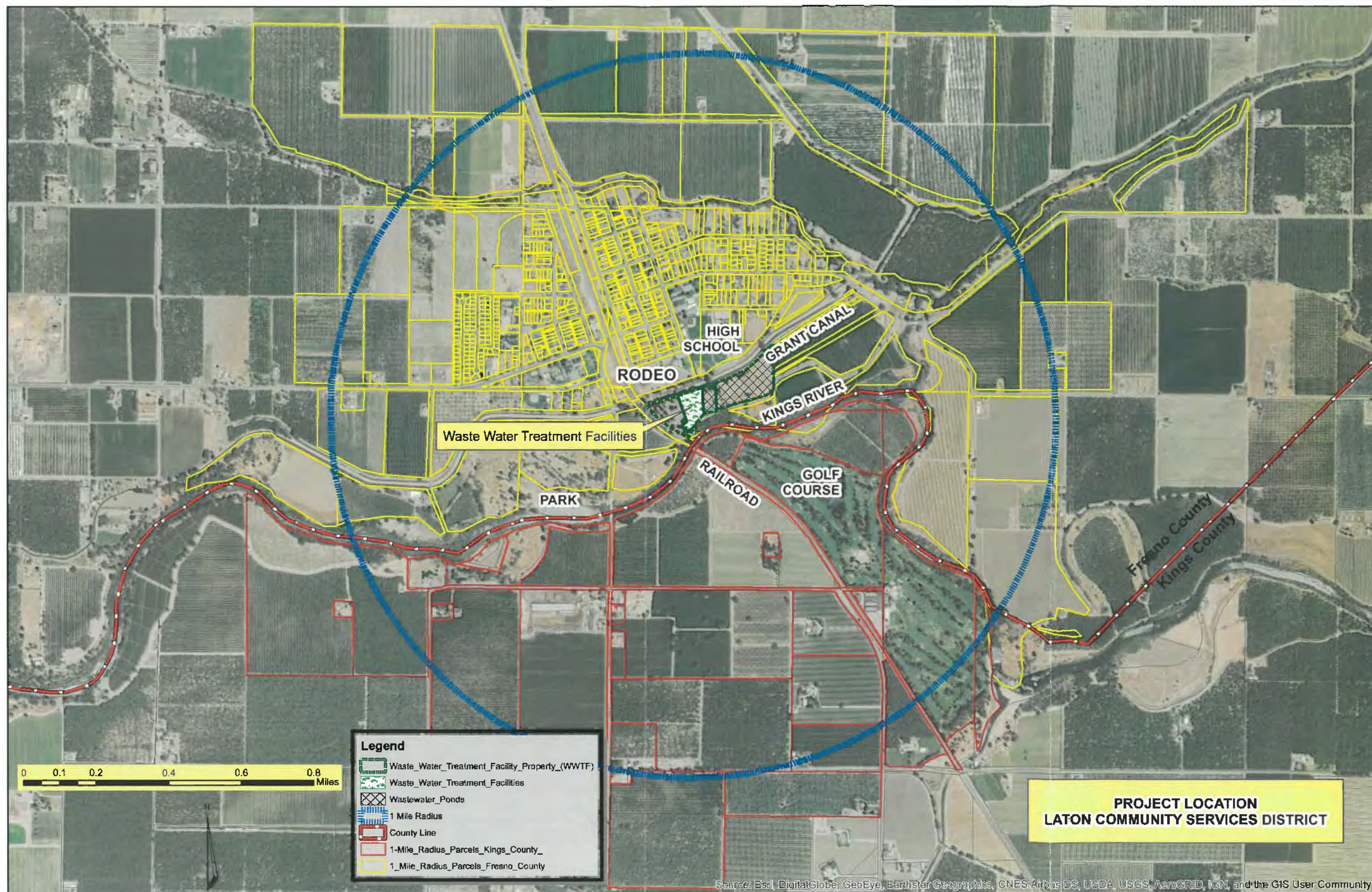
PROPOSED PROJECT

WASTEWATER TREATMENT AND DISPOSAL

FACILITIES IMPROVEMENT PROJECT

LATON COMMUNITY SERVICES DISTRICT

FIGURE 1

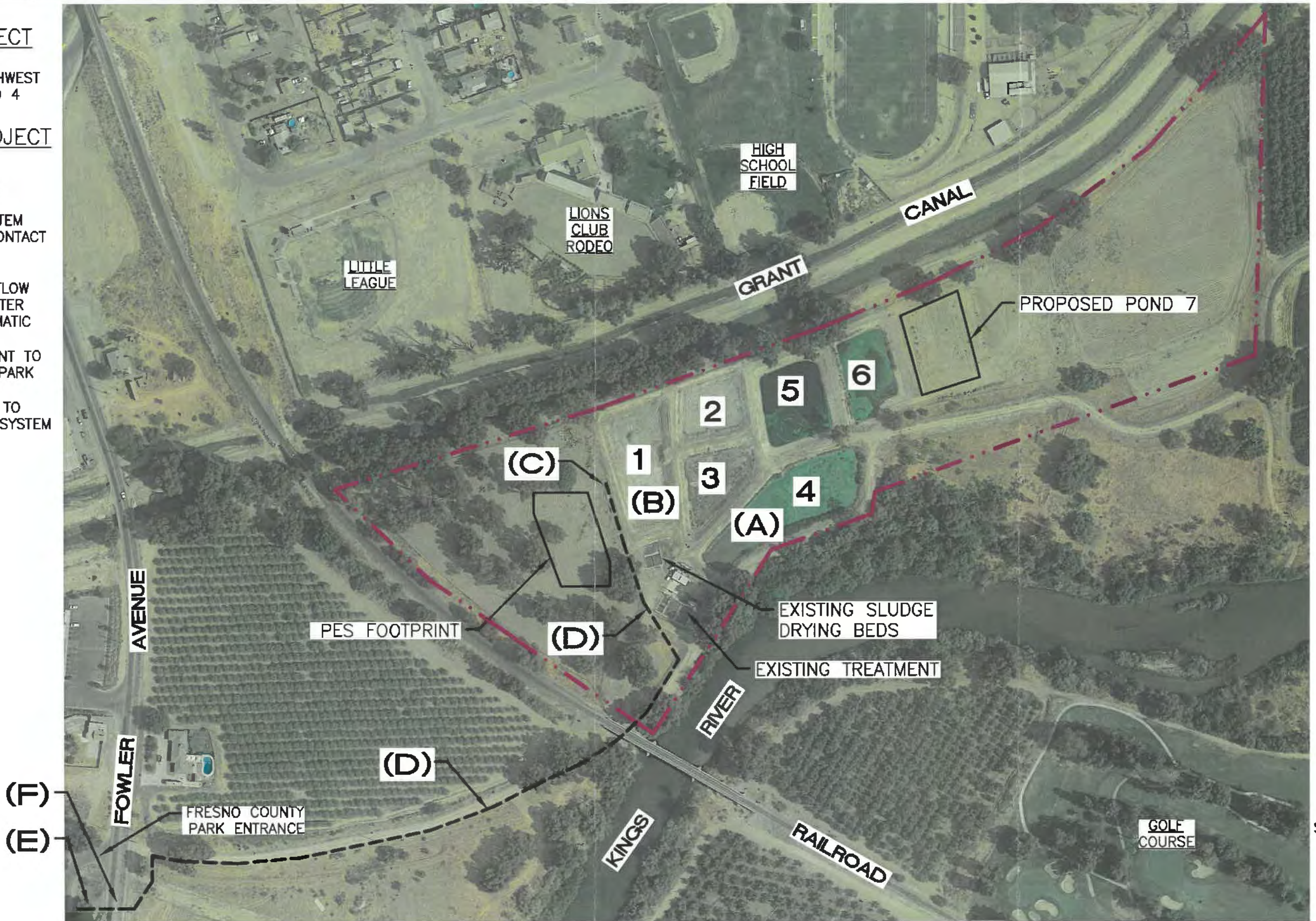


NOTES
PRIMARY PROJECT

- (A) NEW TREATMENT FACILITIES SOUTHWEST CORNER OF POND 4

POTENTIAL PROJECT ELEMENTS
(RECLAMATION)

- (B) DISINFECTION SYSTEM AND CHLORINE CONTACT BASIN
- (C) ALGAE SCREEN, PUMPING PLANT FLOW MEASUREMENT FILTER AND HYDROPNEUMATIC TANK
- (D) PIPELINE ALIGNMENT TO FRESNO COUNTY PARK
- (E) CONNECTION OF RECYCLED WATER TO PARK IRRIGATION SYSTEM BY OTHERS
- (F) ROAD CROSSING



LEGEND

- PROPERTY BOUNDARY LATON CSD - WWTF
- PES PHOTOVOLTAIC ELECTRICAL SYSTEM

IMPROVEMENTS SITE MAP
WASTEWATER TREATMENT FACILITY IMPROVEMENT PROJECT
LATON COMMUNITY SERVICES DISTRICT

L:\Laton Community Services District\Waste Water Improvements 2019\FIGURE 2.dwg

APPENDIX B

AIR EMISSIONS/GREENHOUSE GASES ESTIMATES

WASTEWATER TREATMENT AND DISPOSAL

FACILITIES IMPROVEMENT PROJECT

LATON COMMUNITY SERVICES DISTRICT

ESTIMATED EMISSIONS

WASTEWATER TREATMENT AND DISPOSAL FACILITIES IMPROVEMENTS

LATON COMMUNITY SERVICES DISTRICT

The estimated Project construction and operational air emissions is summarized below. The emission estimates were generated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2. based upon the a 365 day construction schedule. The full CalEEMod emissions estimate report is available for review at the District office.

Pollutant	Status (Attainment, Nonattainment or Unclassified)	Threshold of Significance for the Area (if applicable (Tons/Year)	Construction Emissions (1) (Tons/Year)	Operations Emissions (Tons/Year)
Carbon Monoxide (CO)	Attainment	100	1.6	0.1
Ozone (O ₃)	Non Att. / Extreme	10	Unknown (Note 2)	Unknown (Note 2)
Oxides of Nitrogen (NO _x)	Non Att./Extreme	50	1.8	0.1
Particulate Matter (PM ₁₀)	Unclassified / Attainment	100	0.3	0.01
Reactive Organic Gases (ROG)	Unknown	Unknown	0.2	0.05
Sulfur Dioxide (SO ₂)	Attainment	Unknown	0.1	< 0.01
Volatile Organic Compounds (VOC)	Non Att. / Extreme	50	Unknown (2)	Unknown (2)
PM 2.5	Non Att.	100	0.2	0.01
CO ₂ e (Greenhouse Effect)	Does not apply	7,000 (MT)(3)(4)	333 (MT)	180 (MT)

Notes:

1. The Proposed Project consists of the construction of wastewater treatment facilities including headworks, pump station, aerators and settling basins, solar power, sludge drying and associated pipelines to replace existing facilities. The Project will not result in significant changes to existing operations.
2. Not calculated by CalEEMod.
3. MT – Metric Tons.
4. California Air Resources Board interim standard (2008).

APPENDIX C

BIOLOGICAL RESOURCES REPORT

WASTEWATER TREATMENT AND DISPOSAL

FACILITIES IMPROVEMENT PROJECT

LATON COMMUNITY SERVICES DISTRICT



LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

**BIOLOGICAL EVALUTION
LATON COMMUNITY SERVICE DISTRICT
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
FRESNO COUNTY, CA**

By:

LIVE OAK ASSOCIATES, INC.

Austin Pearson, Director of Ecological Services
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May 23, 2019

Project No. 2351-01

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EXECUTIVE SUMMARY

Laton Community Services District proposes various improvements at its wastewater treatment plant (WWTP) and immediately adjacent lands, including development of new WWTP infrastructure, possible installation of a solar array at the WWTP, and possible construction of two pipelines enabling treated effluent to be recycled on nearby properties. The project site is located immediately south of the unincorporated community of Laton in Fresno County, California. Live Oak Associates, Inc. (LOA) conducted an investigation of the biotic resources of the project site, and assessed potential impacts to those resources pursuant to the California Environmental Quality Act (CEQA). The site was surveyed on March 28, 2019 for biotic habitats, the plants and animals occurring in those habitats, and significant habitat values that may be protected by state and federal law.

The project site encompasses approximately 17 acres of land inside the WWTP and two possible alignments for effluent pipelines, one extending approximately 200 feet north from the WWTP to the Laton High School athletic fields, and the other extending approximately 1,200 feet west from the WWTP to the Laton-Kingston County Park. Five biotic habitat/land use types were identified on the project site: disturbed grassland, disturbed riparian, percolation pond, ruderal/developed, and canal. Notwithstanding high levels of anthropogenic disturbance on the project site, the site's habitats have the potential to support a variety of native wildlife, including several special status species. The site contains a small portion of the Grant Canal, which may be subject to the jurisdiction of the U.S. Army Corps of Engineers and in any event would be regulated by the Regional Water Quality Control Board (RWQCB). Other on-site waters subject to the regulatory authority of the RWQCB include the "A" Ditch and WWTP treatment ponds.

The project has the potential to result in construction-related mortality of western pond turtles, construction-related mortality or disturbance of nesting birds and raptors including the Swainson's hawk, northern harrier, and loggerhead shrike, construction-related mortality of roosting bats including the pallid bat and Townsend's big-eared bat, and loss of riparian habitat. These potential impacts would be considered significant under CEQA. By implementing the project during lower-risk times of year for protected wildlife, avoiding active nests and roosts identified during preconstruction surveys, providing environmental awareness training for construction personnel, and compensating for the loss of any native riparian trees, the project applicant can reduce the magnitude of these potential impacts to a less than significant level under CEQA.

No other biological resources would be significantly impacted by the project as defined by CEQA. Impacts would be less than significant for all locally-occurring special status plant species, nine regionally-occurring special status animal species that are not expected to occur on site, wildlife movement corridors, designated critical habitat, Waters of the U.S. and State, and local policies and habitat conservation plans. Loss of habitat for special status animal species is not considered a significant impact of the project under CEQA.

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1.0 INTRODUCTION

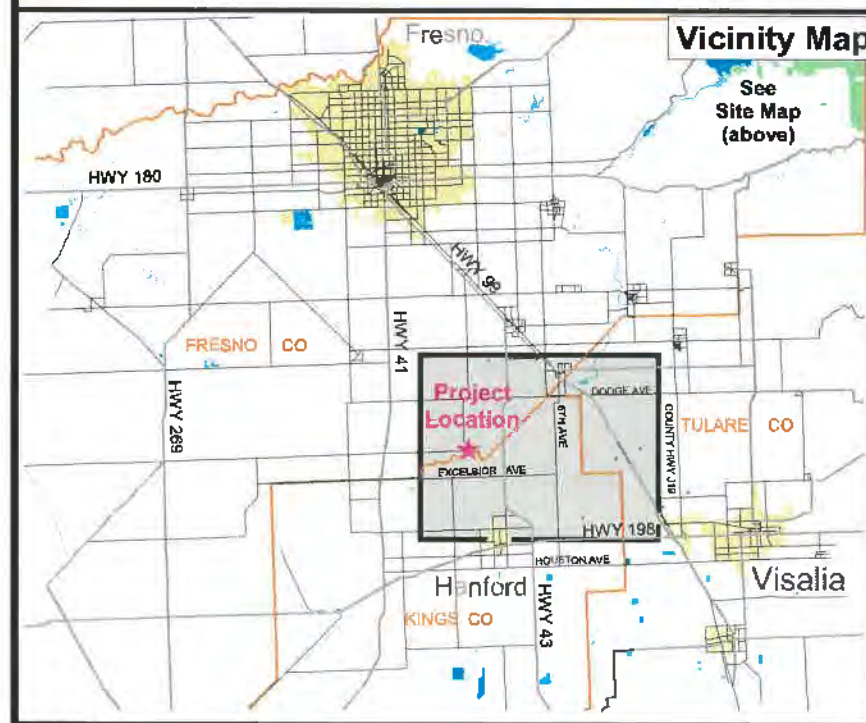
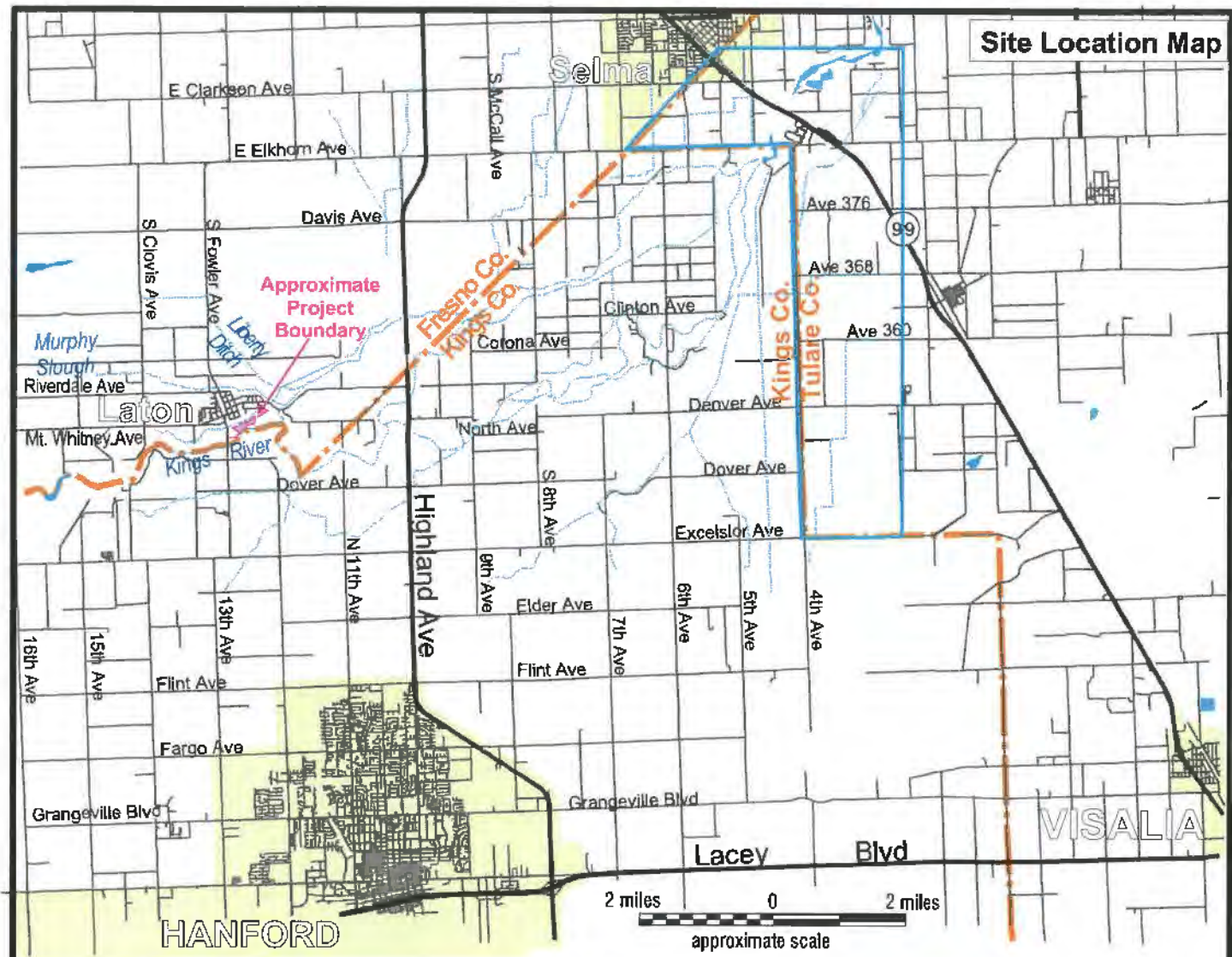
Laton Community Services District (“District”) proposes various improvements (“project”) at its existing wastewater treatment plant (WWTP). The following technical report, prepared by Live Oak Associates, Inc. (LOA) in compliance with the California Environmental Quality Act (CEQA), describes the biotic resources of the existing WWTP and adjoining areas proposed for improvements (collectively the “project site”), and evaluates potential impacts to those resources that could result from project development. The project site is located immediately south of the unincorporated community of Laton along the southern boundary of Fresno County, California (Figure 1), and can be found on the *Laton* U.S. Geological Survey (USGS) 7.5 minute quadrangle within Sections 22 and 27 of Township 17 South, Range 21 East (Mt. Diablo Base and Meridian) (Figure 2).

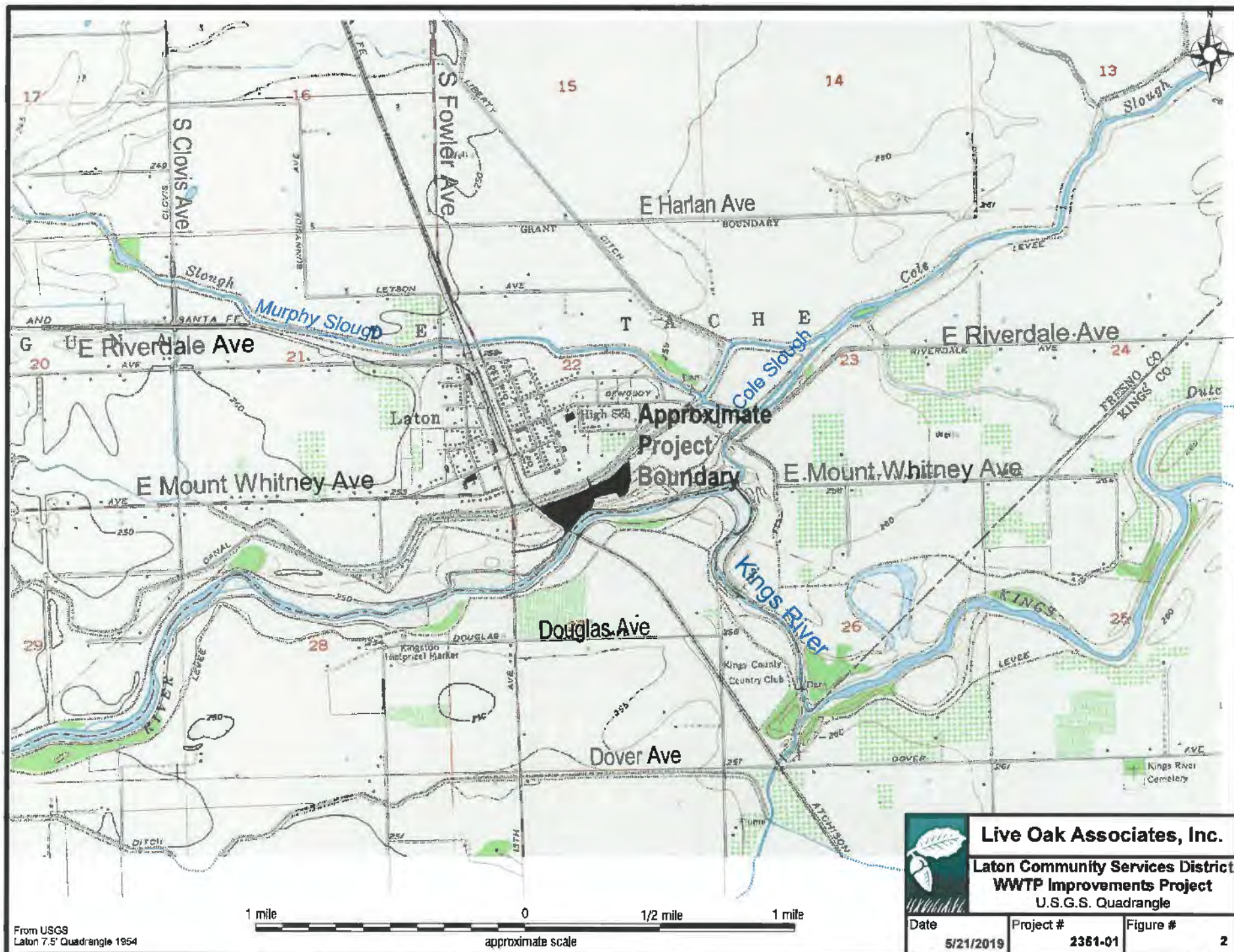
1.1 PROJECT DESCRIPTION

The existing WWTP, built in 1962, consists of a laboratory/office, headworks, concrete aeration basins, clarifier, sludge beds, standby generator, six earthen percolation ponds, and fields that have traditionally been used for effluent overflow. The facility encompasses approximately 17 acres, and is enclosed within a perimeter fence.

Under the proposed project, the WWTP would be upgraded with the construction of new concrete aeration basins, a new clarifier, and new headworks. These improvements would be constructed on the east side of the existing laboratory/office, and would require filling a small portion of the adjoining percolation pond. Two additional earthen percolation ponds would be constructed in the fields currently used for effluent overflow, and the existing standby generator would be replaced. With the exception of the standby generator, all existing facilities would be retained and would continue to be utilized in normal plant operations.

Two additional project components under consideration are possible installation of a solar array at the WWTP and possible conveyance of treated effluent to adjacent lands for use in irrigation. Potential destinations for the treated effluent include the Laton-Kingston County Park, located on the west side of Fowler Avenue, and the Laton High School athletic fields, located due north of the WWTP. Service to the athletic fields would require installing approximately 200 feet of pipeline from the WWTP facility north to the fields, and would include a crossing of two parallel





canals. Service to the County Park would require installing approximately 1,200 feet of buried pipeline from the WWTP west to the park, with a crossing of the railroad underneath the trestle and a crossing of Fowler Avenue.

1.2 REPORT OBJECTIVES

Facility upgrade projects such as that proposed by the Laton Community Services District may damage or modify biotic habitats used by sensitive plant and animal species. In such cases, site development may be regulated by state or federal agencies, subject to review under CEQA and/or subject to local policies and ordinances. In the case of the Laton WWTP Improvement Project, environmental review under CEQA is required. This report addresses issues related to; 1) sensitive biotic resources occurring on the project sites; 2) the federal, state, and local laws regulating such resources; and 3) mitigation measures that may be required to reduce the magnitude of anticipated impacts and/or comply with permit requirements of state and federal resource agencies. As such, the objectives of this report are to:

- Summarize all site-specific information related to existing biological resources.
- Make reasonable inferences about the biological resources that could occur on the site based on habitat suitability and the proximity of the sites to a species' known range.
- Summarize all state and federal natural resource protection laws that may be relevant to the proposed improvements.
- Identify and discuss project impacts to biological resources that may occur on the site within the context of CEQA guidelines and relevant state and federal laws.
- Identify avoidance and mitigation measures that would reduce the magnitude of project impacts in a manner consistent with the requirements of CEQA and that are generally consistent with recommendations of the resource agencies regulating affected biological resources.

1.3 STUDY METHODOLOGY

A reconnaissance-level field survey of the project site was conducted on March 28, 2019 by Live Oak Associates, Inc. (LOA) staff ecologists Jeff Gurule and Natalie Neff. The survey consisted of walking through the project site while identifying the principal land uses and biotic habitats of the site, identifying plant and animal species encountered, and assessing the suitability of the site's habitats for special status species.

LOA conducted an analysis of potential project impacts based on the known and potential biotic resources of the project site. Sources of information used in the preparation of this analysis included: (1) the *California Natural Diversity Data Base* (CDFW 2019), (2) the *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2019), and (3) manuals, reports, and references related to plants and animals of the San Joaquin Valley region.

LOA's field investigation did not include a wetland delineation or focused surveys for special status species. The field survey was sufficient to generally describe those features of the site that could be subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and/or the Regional Water Quality Control Board (RWQCB), and to assess the significance of possible biological impacts associated with development of the site.

2.0 EXISTING CONDITIONS

2.1 REGIONAL SETTING

The project site is located in the San Joaquin Valley of California. The valley is a large, nearly flat alluvial plain bordered by the Sierra Nevada to the east, the Tehachapi Mountains to the south, the California coast ranges to the west, and the Sacramento-San Joaquin Delta to the north. Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures commonly exceed 90 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely exceed 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Average annual rainfall for the project vicinity is 10.9 inches as recorded at Fresno Yosemite International Airport from 1948 to 2016 (Western Regional Climate Center 2016). Most of the precipitation falls between the months of October and March. Nearly all precipitation falls in the form of rain.

The principal drainage of the project vicinity is the Kings River, which passes within a few feet of the site's southern boundary. The river originates near the crest of the Sierra Nevada, and enters the San Joaquin Valley approximately 25 miles northeast of the project site. Downstream of the project site, the river splits into two distributaries, the northern of which gives rise to Fresno Slough and carries seasonal floodwater north to the San Joaquin River, and the southern of which travels south to the old Tulare Lake bed, losing most of its flows to diversions along the way.

Land uses in the project vicinity include orchards, agricultural fields, municipal facilities, and the residential outskirts of Laton.

2.2 PROJECT SITE

The project site as defined in this report encompasses all areas that could be disturbed by the proposed project, and includes lands both inside and outside of the fenced WWTP facility. At the time of the field survey, the project site inside the facility comprised existing WWTP infrastructure, access roads, and fields used for effluent overflow. The project site outside of the fenced facility comprised portions of two canals, a railroad trestle, Fowler Avenue, and a ruderal

field. The topography of the site is nearly flat with an average elevation of 260 feet National Geodetic Vertical Datum (NGVD).

One soil mapping unit was identified within the project site: Grangeville fine sandy loam, 0-1 percent slopes. This soil type is considered hydric, meaning that in its natural state, it is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions favoring the growth of hydrophytic, or water-loving, vegetation. However, the site has for decades been in use as a wastewater treatment facility and would not be expected to exhibit any of its native soil characteristics.

2.3 BIOTIC HABITATS/LAND USES

Five biotic habitats / land uses were identified within the project site: disturbed grassland, disturbed riparian, percolation pond, ruderal/developed, and canal. These habitats are depicted in Figure 3 and described in more detail in the following questions. Lists of the vascular plants observed during the field survey and terrestrial vertebrates using, or potentially using, the project site are presented in Appendices A and B, respectively. Representative photographs of the project site are presented in Appendix C.






2.3.1 Disturbed Grassland

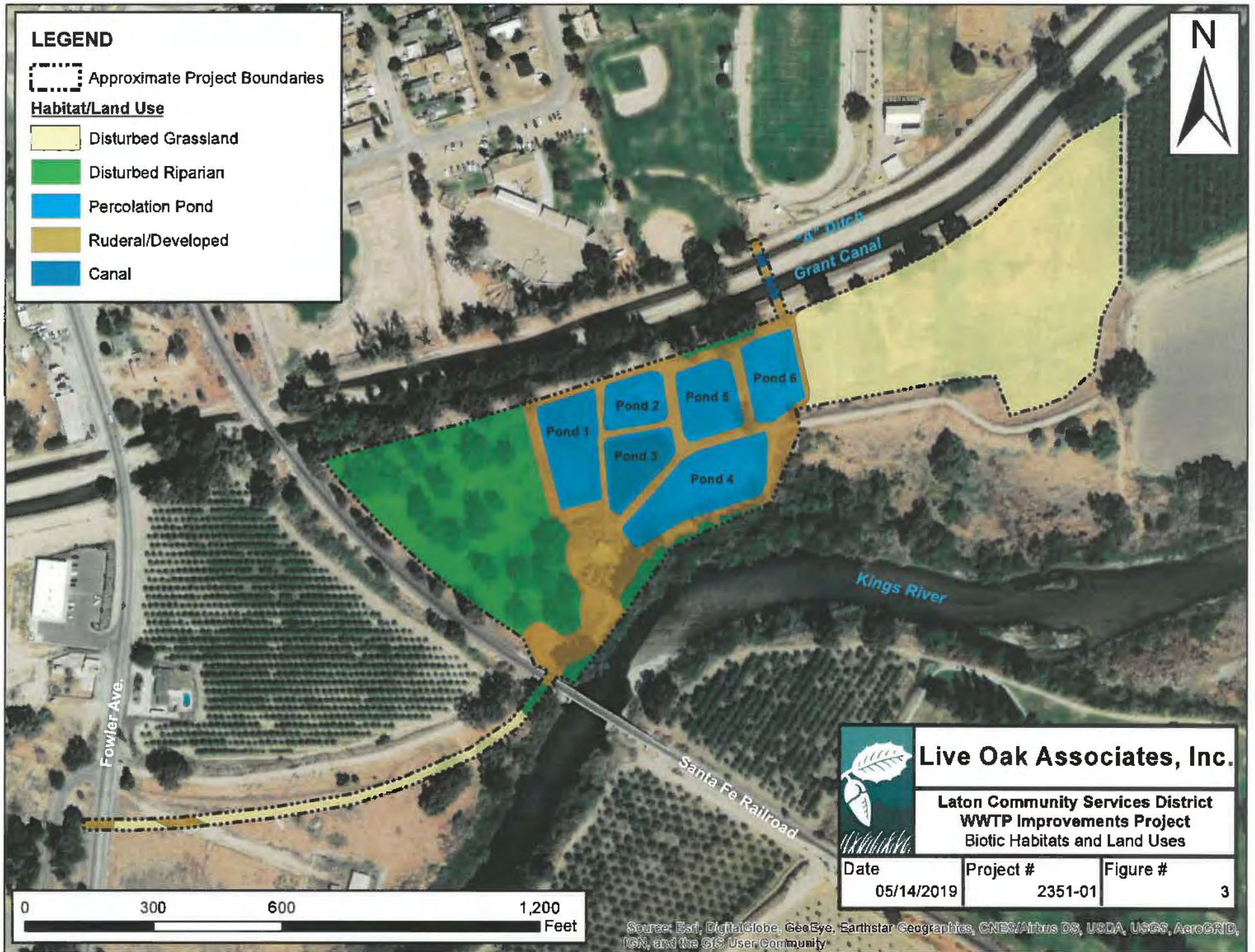
The project site contains two weedy fields that, although subjected to long-term disturbance from discing and mowing, effectively function as grassland habitat. One such field is located in the eastern portion of the fenced WWTP facility, and is used for effluent overflow. The other such field is located west of the fenced facility, along the proposed alignment of the effluent pipeline to the Laton-Kingston County Park. At the time of the site survey, the site's disturbed grassland habitat contained dense weedy vegetation typical of disced fields in the vicinity. Dominant grasses were ripgut brome (*Bromus diandrus*), Bermuda grass (*Cynodon dactylon*) barnyard barley (*Hordeum murinum*), and annual bluegrass (*Poa annua*). Secondary weedy species found within the grassland habitat included Canadian horseweed (*Erigeron canadensis*) and, within the fenced WWTP, sprangletop (*Leptochloa fusca*).

LEGEND

 Approximate Project Boundaries

Habitat/Land Use

-  Disturbed Grassland
-  Disturbed Riparian
-  Percolation Pond
-  Ruderal/Developed
-  Canal



Live Oak Associates, Inc.

**Laton Community Services District
WWTP Improvements Project
Biotic Habitats and Land Uses**

Date	Project #	Figure #
05/14/2019	2351-01	3

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Notwithstanding the disturbance practices in the site's grassland habitat, a variety of native wildlife species may occur in this habitat or use it from time to time. Amphibians with the potential to occur here include the Pacific tree frog (*Pseudacris regilla*) and western toad (*Bufo boreas*), either of which could breed in the WWTP treatment ponds and subsequently disperse through the fields. Reptiles that could occur in the site's grassland habitat include the western whiptail (*Cnemidophorus tigris*), western fence lizard (*Sceloporus occidentalis*), Pacific gopher snake (*Pituophis catenifer catenifer*), and common kingsnake (*Lampropeltis getulus*). Western fence lizards were observed at the time of the field survey.

The fields would also be expected to provide foraging habitat for a number of avian species. Common resident species likely to forage in this habitat type include red-tailed hawks (*Buteo jamaicensis*) and red-shouldered hawks (*Buteo lineatus*), both of which were observed during the field survey. Winter migrants that would be common in the fields include the American pipit (*Anthus rubescens*), while common summer migrants would include the western kingbird (*Tyrannus verticalis*) and Swainson's hawk (*Buteo swainsoni*), both observed during the survey.

Although less common, certain birds may nest in the site's grassland habitat. The western meadowlark (*Sturnella neglecta*) and mourning dove (*Zenaida macroura*) both have the potential to use these fields for nesting from time to time.

Small mammal activity in the grassland habitat is likely limited by regular discing and mowing and, in the WWTP, period flood irrigation with treated effluent. Nevertheless, deer mice (*Peromyscus maniculatus*), California voles (*Microtus californicus*), Botta's pocket gophers (*Thomomys bottae*), and California ground squirrels (*Otospermophilus beecheyi*) have some potential to occur here. At the time of the survey, California ground squirrel burrows and Botta's pocket gopher burrows were spotted elsewhere on site, but none were observed in the grassland habitat. Mammalian predators likely to use the fields from time to time include raccoons (*Procyon lotor*), striped skunks (*Mephitis mephitis*), and coyotes (*Canis latrans*). Various species of bat may also forage over the fields of the site for flying insects.

2.3.2 Disturbed Riparian

The western portion of the WWTP facility and areas along the facility's northern and southern fencelines are characterized by remnant riparian woodland habitat long subjected to discing, mowing, and other forms of anthropogenic disturbance. At the time of the field survey, this habitat supported valley oak trees (*Quercus lobata*) and a few non-native, ornamental tree varieties. The understory supported mostly non-native grasses and forbs including ripgut brome, barnyard barley, red-stemmed filaree (*Erodium cicutarium*), chickweed (*Stellaria media*), and London rocket (*Sisymbrium irio*).

Reptile and amphibian use of the site's disturbed riparian habitat is expected to be similar to that described for grassland. The site's valley oak trees provide nesting habitat for a variety of raptors and migratory birds including the red-tailed hawk, red-shouldered hawk, Swainson's hawk, California scrub jay (*Aphelocoma californica*), and Bullock's oriole (*Icterus bullockii*), all observed in or around this habitat during the field survey. Wintering birds likely to occur in the site's disturbed riparian habitat include the dark-eyed junco (*Junco hyemalis*), yellow-rumped warbler (*Setophaga coronata*), and white-crowned sparrow (*Zonotrichia leucophrys*); these species were also observed during the field survey.

Burrowing mammal activity in the site's disturbed riparian habitat is likely limited by regular discing; however, Botta's pocket gophers and California ground squirrels may burrow around the edges of this habitat. Mammalian predator use of the disturbed riparian habitat would be similar to that described for grassland.

2.3.3 Percolation Pond

The WWTP facility contains six earthen basins (Ponds 1-6 on Figure 3) into which effluent is discharged and allowed to percolate into the soil. At the time of the field survey, Ponds 1, 3, 4, and 6 were inundated, while Ponds 2 and 5 were dry. Ruderal vegetation was found growing around the margins of the inundated ponds and in the beds of the dry ponds. Vegetation observed in and around the ponds included Johnson grass (*Sorghum halepense*), prickly sow-thistle (*Sonchus asper*), common fiddleneck (*Amsinckia intermedia*), and Canada horseweed (*Erigeron canadensis*).

Reptile and amphibian use of the percolation ponds would be largely determined by whether the ponds are inundated. When inundated, the ponds could be used for breeding by the western toad or Pacific tree frog, and could also be used by certain aquatic reptiles; for example, at the time of the field survey, several red-eared sliders (*Trachemys scripta elegans*) were observed at Pond 4. The western pond turtle (*Actinemys marmorata*), a California Species of Special Concern, has been documented at wastewater treatment facilities elsewhere in the San Joaquin Valley, and has some potential to occur in inundated percolation ponds at the Laton WWTP. When dry, the ponds could be used by the side-blotched lizard, Pacific gopher snake, and common gartersnake (*Thamnophis sirtalis*).

Numerous waterfowl and shorebirds have the potential to use the ponds during periods of inundation or saturation. Black-necked stilts (*Himantopus mexicanus*) and great blue herons (*Ardea herodias*) could forage around the margins of inundated ponds, and various types of waterfowl could occur in deeper water. At the time of the field survey, mallards (*Anas platyrhynchos*) and wood ducks (*Aix sponsa*) were observed in inundated ponds at the WWTP. When dry, the ponds could be used by a variety of avian species adapted to open or disturbed environments, such as the killdeer (*Charadrius vociferus*) and mourning dove, both observed during the survey. Raptors such as the red-tailed hawk or American kestrel may forage over the ponds during dry periods, assuming sufficient prey is present.

Small mammal use of the percolation ponds would be limited due to regular ground disturbance practices and the resulting lack of vegetative cover and forage. However, at the time of the survey, Botta's pocket gopher and California ground squirrel burrows were observed on the banks of several ponds. Mammalian predator use of the ponds would be limited because the ponds are located within the fenced WWTP facility. However, raccoons and opossums (*Didelphis virginianus*) are known to climb fences, and other disturbance-tolerant predators such as the coyote may enter the facility if the gates are left open. Any of these species could forage in the ponds when dry.

2.3.4 Ruderal / Developed

The project site contains a network of ruderal/developed areas characterized by compacted dirt or paved surfaces, engineered structures, and frequent human use. At the time of the field survey,

such areas included roads and road shoulders, the railroad trestle, and the WWTP's existing lab/office, headworks, and concrete-lined aeration ponds and sludge beds. Vegetation was largely absent from the site's ruderal/developed areas. Where present, it consisted of common weeds such as redstem filaree and sprangletop.

Ruderal/developed habitats of the project site are of low value for most native wildlife. However, certain disturbance-tolerant native and non-native species are expected to occur here. For example, the killdeer, observed during the survey, commonly nests on gravel or bare dirt surfaces. A few birds native to North America are known to nest in or on structures; locally, these include the black phoebe (*Sayornis nigricans*) and house finch (*Haemorrhous mexicanus*), both of which were observed during the survey. A variety of native bat species roost in buildings and other structures. Botta's pocket gophers and California ground squirrels are common in degraded habitats and may occur in the site's ruderal/developed areas, particularly where ground disturbance is infrequent.

Non-native species that might be associated with ruderal/developed areas of the site include the Norway rat (*Rattus norvegicus*), house mouse (*Mus musculus*), house sparrow (*Passer domesticus*), and rock pigeon (*Columbia livia*).

2.3.5 Canal

The project site includes short segments of two parallel canals, the Grant Canal and "A" Ditch, that intersect the proposed alignment of the effluent pipeline leading to the school athletic fields. In the immediate project vicinity, the canals are separated by the width of their shared levee, a distance of approximately 25 feet. Both canals are earthen, with banks that appear regularly maintained for vegetation removal. At the time of the field survey the stretch of canals within the proposed project footprint were mostly barren with vegetation such as sprangletop (*Leptochloa fusca*) mostly confined to the high-water line.

Due to the maintenance regimen, the project site's canals would be of limited value to native wildlife. However, Pacific tree frogs and western toads could opportunistically breed in the canals during inundated periods. These and other prey species may attract wading birds such as the great blue heron and great egret (*Ardea alba*). Botta's pocket gophers and California ground

squirrels may burrow on the banks; at the time of the field survey, ground squirrel burrows were observed on the upper banks of both canals.

2.4 SPECIAL STATUS PLANTS AND ANIMALS

Several species of plants and animals within the state of California have low populations and/or limited distributions. Such species may be considered “rare” and are vulnerable to extirpation as the state’s human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.2, state and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as “threatened” or “endangered” under state and federal endangered species legislation. Others have been designated as candidates for such listing. Still others have been designated as “species of special concern” by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered (CNPS 2019). Collectively, these plants and animals are referred to as “special status species.”

The California Natural Diversity Data Base (CDFW 2019) was queried for special status species occurrences in the nine USGS 7.5-minute quadrangles containing and immediately surrounding the project site (*Caruthers, Conejo, Selma, Riverdale, Laton, Burris Park, Lemoore, Hanford, Remnøy*). These species, and their potential to occur on the site, are listed in Table 1 on the following pages. Sources of information for this table included *California’s Wildlife, Volumes I, II, and III* (Zeiner et al 1988-1990), *California Natural Diversity Data Base* (CDFW 2019), *The Recovery Plan for Upland Species of the San Joaquin Valley, California* (USFWS 1998), *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al 2012), the CNPS *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2019), *Calflora.org*, and *eBird.org*.

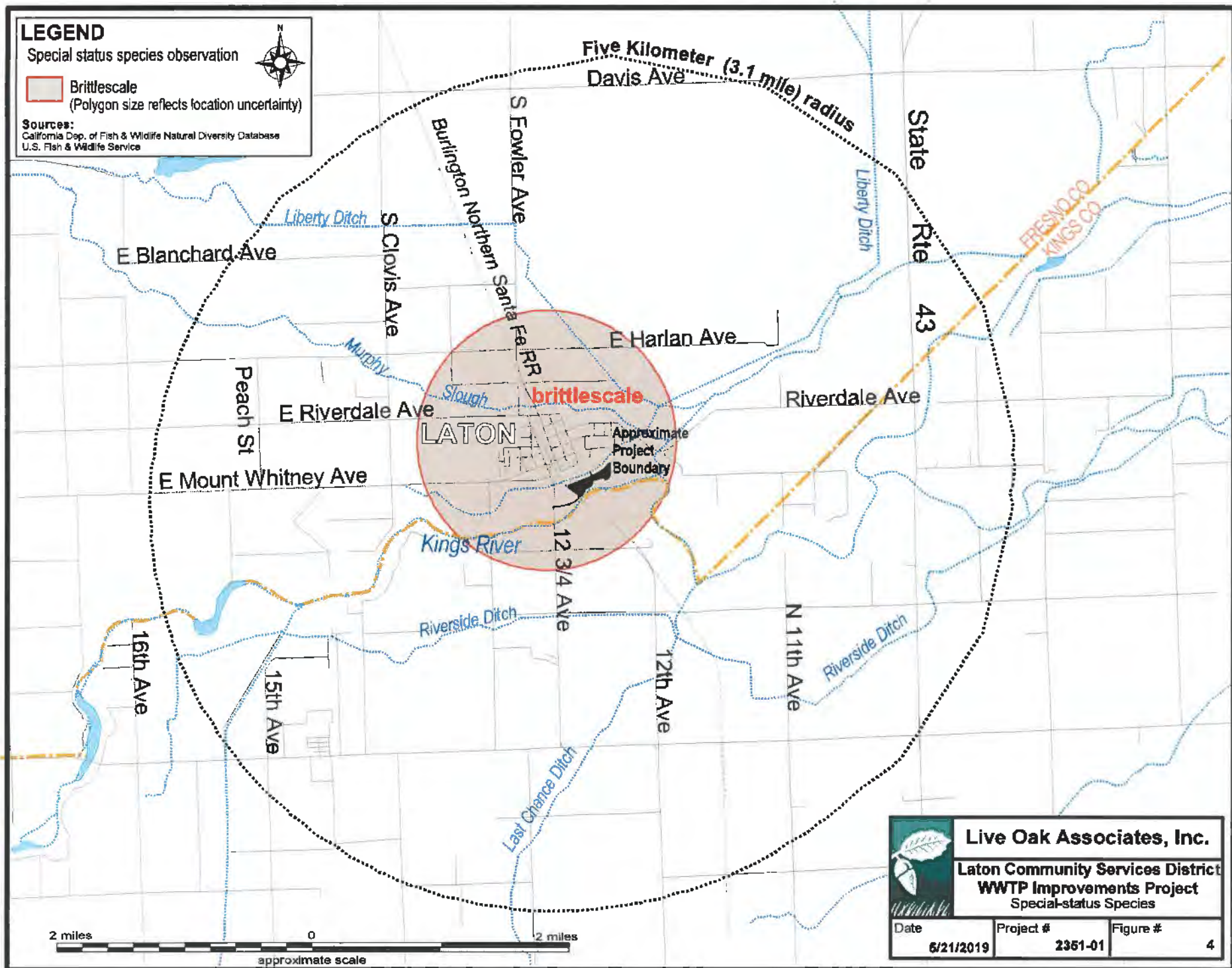
Special status species occurrences within 3.1 miles (5 kilometers) of the project site are depicted in Figure 4 and San Joaquin kit fox (*Vulpes macrotis mutica*) occurrences within 10 miles of the project site are depicted in Figure 5.

LEGEND

Special status species observation

 Brittlescale
(Polygon size reflects location uncertainty)

Sources:
California Dep. of Fish & Wildlife Natural Diversity Database
U.S. Fish & Wildlife Service



Live Oak Associates, Inc.

**Laton Community Services District
WWTP Improvements Project
Special-status Species**

Date

6/21/2019

Project #

2351-01

Figure #

4

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS (adapted from CDFW 2019 and CNPS 2019)

CNPS-Listed Plants

Species	Status	Habitat	Occurrence on the Project Site
Brittlescale (<i>Atriplex depressa</i>)	CNPS 1B	Occurs in alkali soils in barren areas within alkali grassland, meadow and scrub. Occasionally found around vernal pools. Elevations up to 1,000 ft. Blooms April-October.	Absent. Suitable habitat is absent. Any habitat that may have been present would have been lost to agricultural uses and development of wastewater treatment and water conveyance facilities.
Lesser Saltscare (<i>Atriplex minuscula</i>)	CNPS 1B	Occurs in cismontane woodland and valley and foothill grasslands of the San Joaquin Valley; alkaline/sandy soils; blooms May-October; elevations below 700 ft.	Absent. Suitable habitat is absent. Any habitat that may have been present would have been lost to agricultural uses and development of wastewater treatment and water conveyance facilities.
Panoche Pepper-Grass (<i>Lepidium jaredii</i> ssp. <i>album</i>)	CNPS 1B	Occurs in Valley and foothill grassland on steep slopes, clay and sometimes alkaline soils between 755 and 2,560 ft. in elevation. Blooms February through June.	Absent. Suitable habitat is absent, and the site is situated below this species' elevational range.
California Alkali-Grass (<i>Puccinellia simplex</i>)	CNPS 1B	Occurs in saline flats and mineral springs in the Central Valley, San Francisco Bay area, and western Mojave Desert below 2,920 ft. in elevation. Blooms March through May.	Absent. Suitable habitat in the form of saline flats and mineral springs is absent from the project site.

ANIMALS (adapted from CDFW 2019)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Vernal Pool Fairy Shrimp (<i>Branchinecta lynchi</i>)	FT	Occurs in vernal pools, clear to tea-colored water in grass or mud-bottomed swales, and hasalt depression pools.	Absent. Suitable vernal pool habitat for this species is absent from the project site.
Vernal Pool Tadpole Shrimp (<i>Lepidurus packardii</i>)	FE	Primarily found in vernal pools, but may use other seasonal wetlands in valley and foothill grasslands.	Absent. Suitable vernal pool habitat for this species is absent from the project site.
California Tiger Salamander (CTS) (<i>Ambystoma californiense</i>)	FT, CT	Primarily found in annual grasslands, where it breeds in vernal pools and aestivates in rodent burrows. May aestivate up to 1.3 miles away from breeding habitat.	Absent. Suitable breeding habitat for this species is absent from the project site and surrounding lands, and the site is situated in a mosaic of intensive agricultural, residential, and municipal uses that would not support CTS. The only known CTS occurrence in the project vicinity is a sighting made prior to 1925 approximately 8 miles northeast of the site. That population is now considered extirpated.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS – cont'd.

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site
Swainson's Hawk (<i>Buteo swainsoni</i>)	CT	This breeding migrant to California nests in mature trees in riparian areas and oak savannah, and occasionally in lone trees at the margins of agricultural fields. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	Present. A pair of Swainson's hawks was observed during the field survey. Mature trees in the site's remnant riparian woodland are suitable for nesting by this species, albeit somewhat unlikely to be used due to high levels of anthropogenic disturbance at the WWTP. Swainson's hawks could forage in the grassland habitat of the project site. The CNDDB lists 8 nesting occurrences of this species between 5 and 10 miles from the project site, including two from as recently as 2016.
Western Yellow-billed Cuckoo (<i>Coccyzus americanus occidentalis</i>)	FT, CE	Once a common breeding species in riparian habitats of lowland California, the western yellow-billed cuckoo today breeds consistently in only two California localities: along the Sacramento and South Fork Kern Rivers.	Absent. The CNDDB lists an 1898 occurrence of this species in Selma; however, the species is believed to have been extirpated from the project vicinity.
Tipton Kangaroo Rat (<i>Dipodomys nitratoideus nitratoideus</i>)	FE, CE	Occupies underground burrows in valley saltbush scrub and valley sink scrub habitats in the southern San Joaquin Valley.	Absent. Any potential Tipton's kangaroo rat habitat that may have once been present on site would have been eliminated by agricultural uses and development of wastewater treatment and water conveyance facilities. Moreover, the site is situated at the northern limits of this species' range. The closest known occurrences, historical or modern, are more than 14 miles south of the site.
San Joaquin Kit Fox (<i>Vulpes macrotis mutica</i>)	FE, CT	Frequents desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats. Utilizes enlarged (5 to 8 inches in diameter) ground squirrel burrows as denning habitat.	Unlikely. The project site's habitats are highly maintained and marginal to unsuitable for this species. The vast majority of the site is fenced and would be inaccessible to kit fox except through the gate, which would be closed during nighttime hours, when this species is typically active. The kit fox is uncommon in the project vicinity; the CNDDB lists only 7 occurrences within a 10-mile radius of the project site, mostly from the 1970s. Given the lack of recent nearby occurrences, the site's location within a matrix of intensively managed lands, and the low suitability and inaccessibility of the site itself, kit fox occurrence on the project site is considered highly improbable.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS – cont’d.

State Species of Special Concern or California Fully Protected

Species	Status	Habitat	Occurrence on the Project Site
Western Spadefoot (<i>Spea hammondi</i>)	CSC	Mainly occurs in grasslands of San Joaquin Valley. Vernal pools or other temporary wetlands are required for breeding. Aestivates in underground refugia such as rodent burrows, typically within 1,200 ft. of aquatic habitat.	Absent. Suitable breeding habitat for this species is absent from the project site and surrounding lands. The closest known occurrences of the western spadefoot are more than 10 miles to the east of the project site.
California Glossy Snake (<i>Arizona elegans occidentalis</i>)	CSC	Occurs in arid scrub, rocky washes, grasslands, and chaparral from the eastern San Francisco Bay Area south to northwestern Baja, excluding coastal areas in Central California. Known from up to 7,200 ft. in elevation.	Unlikely. The project site's habitats are marginal for the California glossy snake, and the site is situated in a mosaic of intensive agricultural, residential, and municipal uses that would not be expected to support this species. The only documented occurrence of this species within a 10-mile radius of the project site was a sighting in 1939 approximately 7.5 miles northwest of the project site.
Western Pond Turtle (<i>Actinemys marmorata</i>)	CSC	Occurs in open slow-moving water or ponds with rocks and logs for basking. Nesting occurs in open areas, on a variety of soil types, and up to ¼ mile away from water. Females typically lay their eggs in late spring or early summer, and hatchlings emerge in the fall.	Possible. Western pond turtles are known to use wastewater treatment ponds elsewhere in the San Joaquin Valley, particularly at facilities that adjoin natural drainages (Germano and Bury 2001) as does the Laton WWTP. The Laton WWTP is known to support red-eared sliders, an aquatic turtle with similar habitat requirements to the western pond turtle. Notwithstanding a lack of nearby occurrences, western pond turtles have some potential to occur in inundated percolation ponds at the Laton WWTP and use the adjacent grassland habitat for nesting.
Northern Harrier (<i>Circus cyaneus</i>)	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats. Nests on the ground in high vegetation.	Possible. Northern harriers could potentially nest and forage in the site's grassland habitat.
Burrowing Owl (<i>Athene cunicularia</i>)	CSC	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	Unlikely. The intensively maintained habitats of the project site are only marginally suitable for the burrowing owl, and the site is situated in a matrix of agricultural, residential, and municipal uses generally incompatible with this species' nesting and foraging strategies. Burrowing owls are not known from the project vicinity; the CNDDB lists only one occurrence within 10 miles of the site, located approximately 6 miles to the west in grazed pasture. The closest eBird sightings are approximately 10 miles from the site.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS – cont'd.

State Species of Special Concern or California Fully Protected

Species	Status	Habitat	Occurrence on the Project Site
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. Nests in riparian areas, desert scrub, and agricultural hedgerows.	Possible. Shrikes could forage over the project site's grassland habitat, and could nest in trees within and adjoining the site.
Pallid Bat (<i>Antrozous pallidus</i>)	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally take insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and buildings.	Possible. The pallid bat has the potential to forage over the site from time to time, and could roost in the site's trees and structures.
Townsend's Big-eared Bat (<i>Corynorhinus townsendii</i>)	CSC	Primarily a cave-dwelling bat, but may also roost in tunnels, buildings, other human-made structures, and hollow trees. Occurs in a variety of habitats.	Possible. The Townsend's big-eared bat has the potential to forage over the site from time to time, and could roost in the site's trees and structures.

EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES

Present:	Species observed on the site at time of field surveys or during recent past
Likely:	Species not observed on the site, but it may reasonably be expected to occur there on a regular basis
Possible:	Species not observed on the site, but it could occur there from time to time
Unlikely:	Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient
Absent:	Species not observed on the site, and precluded from occurring there due to absence of suitable habitat

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CCE	California Endangered (Candidate)
FPT	Federally Threatened (Proposed)	CFP	California Fully Protected
FC	Federal Candidate	CSC	California Species of Special Concern

CNPS LISTING

1A	Plants Presumed Extinct in California	2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere
1B	Plants Rare, Threatened, or Endangered in California and elsewhere		

2.5 JURISDICTIONAL WATERS

Jurisdictional waters are those subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), CDFW, and/or Regional Water Quality Control Board (RWQCB). Jurisdictional waters generally include rivers, creeks, drainages with a defined bed and bank and flows that are at least ephemeral, lakes, ponds, reservoirs, and wetlands. See Section 3.2.6 of this report for additional information.

The project site contains short segments of two irrigation canals, the Grant Canal and “A” Ditch. Because the State Water Resources Control Board and local RWQCBs have jurisdiction over all surface and ground water in California, these canals are, at a minimum, Waters of the State subject to the regulatory authority of the RWQCB. Grant Canal may additionally be a Water of the U.S. subject to the regulatory authority of the USACE because it appears to have upstream connectivity to Cole Slough and downstream connectivity to the Kings River, both known Waters of the U.S. Neither canal is likely to be claimed by CDFW because neither appears to replace a natural drainage or support riparian vegetation.

Under the 2015 Clean Water Rule, the site’s wastewater ponds are (b)(1) waters excluded from USACE jurisdiction; however, the RWQCB may regulate activities within the site’s treatment ponds. The Kings River, a known Water of the U.S., is located immediately outside of project boundaries but will not be impacted by the project.

2.6 SENSITIVE NATURAL COMMUNITIES

California contains a wide range of natural communities, or unique assemblages of plants and animals. These communities have largely been classified and mapped by CDFW as part of its natural heritage program. Natural communities are assigned state and global ranks according to their rarity and the magnitude and trend of the threats they face. Any natural community with a state rank of 3 or lower (on a 1-5 scale) is considered “sensitive” and must be considered in CEQA review.

The site contains remnant riparian woodland habitat characterized by a mix of valley oaks and ornamental trees with a grassy, primarily non-native understory. Review of Google Earth aerial imagery indicates that this habitat is regularly maintained with discing and mowing. Although this habitat may be locally important for certain wildlife, its native characteristics have largely been lost to maintenance activities, and it is not considered sensitive. Moreover, sensitive natural communities as mapped by CDFW are absent from the site and surrounding lands.

2.7 WILDLIFE MOVEMENT CORRIDORS

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-

population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation.

The project site itself does not contain features likely to function as wildlife movement corridors. However, the Kings River is located immediately outside of project boundaries, separated from the site by the WWTP fence. The Kings River and associated riparian habitat represent an important movement corridor for wildlife in the San Joaquin Valley. A number of elevational migrant birds would use this corridor to travel between breeding grounds in the Sierra Nevada and wintering grounds in the Valley; examples include the yellow-rumped warbler and dark-eyed junco, both observed during the field survey. Terrestrial mammals like the gray fox (*Urocyon cinereoargenteus*) and striped skunk likely use this corridor for cover while moving between habitat patches, particularly where surrounding lands are developed or otherwise unsuitable.

The Pacific flyway, one of four major bird migration routes in North America, passes over the site and much of the rest of California.

2.8 DESIGNATED CRITICAL HABITAT

The USFWS often designates areas of “critical habitat” when it lists species as threatened or endangered. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Designated critical habitat is absent from the project site. The nearest unit of critical habitat is located approximately 10 miles east of the site, and is designated for the protection of the California tiger salamander, vernal pool fairy shrimp, and vernal pool tadpole shrimp.

3.0 IMPACTS AND MITIGATIONS

3.1 SIGNIFICANCE CRITERIA

In California, any project carried out or approved by a public agency that will result in a direct or reasonably foreseeable indirect physical change in the environment must comply with CEQA. The purpose of CEQA is to ensure that a project's potential impacts on the environment are evaluated, and methods for avoiding or reducing these impacts are considered, before the project is allowed to move forward. A secondary aim of CEQA is to provide justification to the public for the approval of any projects involving significant impacts on the environment.

According to Section 15382 of the CEQA Guidelines, a significant effect on the environment means a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest." Although the lead agency may set its own CEQA significance thresholds, project impacts to biological resources are generally considered to be significant if they would meet any of the following criteria established in Appendix G of the CEQA Guidelines:

- 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 CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS.
- 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.
- 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.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) requires the lead agency to make “mandatory findings of significance” if there is substantial evidence that a project may:

- 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, or reduce the number or restrict the range of an endangered, rare or threatened species.
- Achieve short-term environmental goals to the detriment of long-term environmental goals.
- Produce environmental effects that are individually limited but cumulatively considerable, meaning that the incremental effects of the project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 General Plan Policies

Cities and counties adopt general plans to guide future development and to protect and/or enhance natural and cultural resources. In general, projects must be consistent with the goals and policies of these general plans. The County of Fresno’s general plan was adopted in 2000, and has a planning horizon of 15 to 25 years.

The Open Space and Conservation Element of the Fresno County General Plan includes a number of goals, policies, and implementation programs concerning biological resources. Policies of particular relevance to the project are summarized as follows: 1) the County shall

support the “no-net-loss” wetlands policies of the USACE, USFWS, and CDFW, and shall require new development to fully mitigate the loss of regulated wetlands, 2) the County shall require new development to be designed in such a manner that pollutants and siltation do not significantly degrade the area, value, or function of wetlands, 3) the County shall require new developments to preserve and enhance native riparian habitat unless public safety concerns require removal of habitat, and shall require riparian protection zones around natural watercourses, 4) the County shall identify and conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critically important to wildlife species associated with those wetland and riparian areas, 5) where practicable, the County shall support efforts to avoid the “net” loss of important wildlife habitat, and should preserve in a natural state those areas defined as habitats for rare and endangered animal and plant species, 6) if loss of important habitat for special status species or other valuable wildlife resources cannot be avoided, the County shall impose adequate mitigation, 7) the County shall require adequate buffer zones between construction activities and significant wildlife resources, 8) the County shall support the preservation of significant areas of natural vegetation, e.g. oak woodlands, riparian areas, and vernal pools, and 9) the County shall require that new developments preserve natural woodlands to the maximum extent possible.

3.2.2 Threatened and Endangered Species

In California, imperiled plants and animals may be afforded special legal protections under the California Endangered Species Act (CESA) and/or Federal Endangered Species Act (FESA). Species may be listed as “threatened” or “endangered” under one or both Acts, and/or as “rare” under CESA. Under both Acts, “endangered” means a species is in danger of extinction throughout all or a significant portion of its range, and “threatened” means a species is likely to become endangered within the foreseeable future. Under CESA, “rare” means a species may become endangered if their present environment worsens. Both Acts prohibit “take” of listed species, defined under CESA as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill” (California Fish and Game Code, Section 86), and more broadly defined under FESA to include “harm” (16 USC, Section 1532(19), 50 CFR, Section 17.3).

When state and federally listed species have the potential to be impacted by a project, the USFWS and CDFW must be included in the CEQA process. These agencies review the environmental document to determine the adequacy of its treatment of endangered species issues and to make project-specific recommendations for the protection of listed species. Similarly, NEPA projects that may impact federally listed species must include the USFWS in the environmental review process. Projects that may result in the “take” of listed species must generally enter into consultation with the USFWS and/or CDFW pursuant to FESA and CESA, respectively. In some cases, incidental take authorization(s) from these agencies may be required before the project can be implemented.

3.2.3 Migratory Birds

The Federal Migratory Bird Treaty Act (FMBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all birds native to the United States, even those that are non-migratory. The FMBTA encompasses whole birds, parts of birds, and bird nests and eggs.

Although the USFWS and its parent administration, the U.S. Department of the Interior, have traditionally interpreted the FMBTA as prohibiting incidental as well as intentional “take” of birds, a January 2018 legal opinion issued by the Department of the Interior now states that incidental take of migratory birds while engaging in otherwise lawful activities is permissible under the FMBTA. However, California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the FMBTA (Section 3513), as well as any other native non-game bird (Section 3800), even if incidental to lawful activities.

3.2.4 Birds of Prey

Birds of prey are also protected in California under provisions of the State Fish and Wildlife Code, Section 3503.5, which states that it is “unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or

eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”

3.2.5 Nesting Birds

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is “unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of “take” by the CDFW.

3.2.6 Wetlands and Other “Jurisdictional Waters”

Section 404 of the federal Clean Water Act (CWA) regulates the discharge of dredged or fill material into “navigable waters” (33 U.S.C. §1344), defined in the CWA as “the waters of the United States, including the territorial seas” (33 U.S.C. §1362(7)). The CWA does not, however, supply a definition for waters of the U.S., and that has been the subject of considerable debate since the CWA’s passage in 1972. A variety of regulatory definitions have been promulgated by the two federal agencies responsible for implementing the CWA, the Environmental Protection Agency (EPA) and USACE. These definitions have been interpreted, and in some cases, invalidated, by federal courts.

In 2015, the EPA and USACE jointly issued the Clean Water Rule (CWR), providing a synthesized definition of waters of the U.S. based on statute, science, and federal court decisions to date. Subsequent litigation delayed implementation of the CWR. However, in August 2018, the CWR was enjoined in 22 states including California.

The CWR defines waters of the U.S. to include the following:

(a)(1) Waters: All waters used in interstate or foreign commerce (also known as traditional navigable waters), including all waters subject to the ebb and flow of the tide;

(a)(2) Waters: All interstate waters including interstate wetlands;

(a)(3) Waters: The territorial seas;

(a)(4) Waters: All impoundments of Waters of the U.S.;

(a)(5) Waters: All tributaries of (a)(1)-(a)(4) waters, where “tributary” refers to a water (natural or constructed) that contributes flow to another water and is characterized by the physical indicators of a bed and bank and an ordinary high water (OHW) mark;

(a)(6) Waters: Adjacent waters, defined as either (a) located in whole or in part within 100 feet of the OHW mark of (a)(1)-(a)(5) waters, or (b) located in whole or in part within the 100-year floodplain and within 1,500 feet of the OHW mark of (a)(1)-(a)(5) waters;

(a)(7) Waters: Western vernal pools, prairie potholes, Carolina bays and Delmarva bays, pocosins, and Texas coastal prairie wetlands, if determined on a case-specific basis to have a significant nexus to (a)(1)-(a)(3) waters;

(a)(8) Waters: Waters that do not meet the definition of adjacency, but are determined on a case-specific basis to have a significant nexus to (a)(1)-(a)(3) waters, and are either located in whole or in part within the 100-year floodplain of (a)(1)-(a)(3) waters, or located within 4,000 feet of the OHW mark of (a)(1)-(a)(5) waters.

The CWR also redefines exclusions from jurisdiction, which include:

(b)(1) Waters: Waste treatment systems;

(b)(2) Waters: Prior converted cropland;

(b)(3) Waters: Three types of ditches. A ditch may be a water of the U.S. only if it meets the definition of “tributary” and is not otherwise excluded under the provisions below.

(i) Ditches with ephemeral flow that are not a relocated or excavated tributary;

- (ii) Ditches with intermittent flow that are not a relocated or excavated tributary or that do not drain wetlands;
- (iii) Ditches that do not flow, either directly or through another water, to an (a)(1)-(a)(3) water.

(b)(4) Waters: Other aquatic features:

- Artificially irrigated areas that would revert to dry land should application of irrigation water to that area cease.
- Artificially constructed lakes or ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, log cleaning ponds, cooling ponds, or fields flooded for rice growing.
- Artificial reflecting pools or swimming pools created in dry land.
- Small ornamental waters created in dry land for primarily aesthetic reasons.
- Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand or gravel that fill with water.
- Erosional features, including gullies, rills and other ephemeral features that do not meet the definition of a tributary, non-wetland swales, and lawfully constructed grassed waterways.
- Puddles.

(b)(5) Waters: Groundwater and artificially constructed subsurface drainage systems in dry land;

(b)(6) Waters: Stormwater control features constructed to convey, treat, or store stormwater created in dry land; does not include features that possess perennial flow, even if constructed in dry land.

All activities that involve the discharge of dredge or fill material into waters of the U.S. are subject to Section 404 permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of California ("Waters of the State"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into Waters of the State through the issuance of various permits and orders. Discharges into Waters of the State that are also Waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also Waters of the U.S., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one or more acres of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a Water of the U.S. may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

3.3. POTENTIALLY SIGNIFICANT PROJECT IMPACTS AND MITIGATIONS

As described in Section 1.0 of this report, the proposed project entails various improvements to the Laton CSD's existing WWTP facility. For the purposes of this impact analysis, it is assumed that temporary project-related impacts could occur anywhere within the approximate 17-acre facility and along two corridors outside of the facility, totaling approximately 1 acre, within which effluent pipelines may be constructed. Approximately half of the project site could be permanently impacted by the proposed developments and any associated tree removal that is required.

3.3.1 Potential Project Impacts to Western Pond Turtle

Potential Impacts. As discussed, the western pond turtle (*Actinemys marmorata*) has the potential to occur in the WWTP's percolation ponds and nest in the on-site fields. A small portion of one of the ponds, Pond 4 on Figure 3, will need to be filled to accommodate development of new infrastructure. The pond would be dewatered prior to fill work, and it is assumed that any pond turtles occupying the pond would simply move to another inundated pond on site, thereby escaping harm. However, there is some potential for pond turtles to be injured or killed by construction activities while traveling overland between ponds.

Approximately 3 acres of the site's fields will be used for the construction of two new percolation ponds. Development of this area would not represent a significant loss of pond turtle habitat under CEQA because the habitat will simply be converted to another useable form; namely, to potential aquatic habitat. However, if gravid females or their nests are present in the fields at the time of construction, individual turtles could be injured or killed.

Project-related mortality of western pond turtles is a potentially significant impact of the project under CEQA.

Mitigation. The following measures will be implemented to avoid construction-related mortality of the western pond turtle.

Mitigation Measure 3.3.1a (Environmental Awareness Training). Prior to the start of construction, construction personnel will be trained on the identification, behavior, and ecology of the western pond turtle, and the project-specific measures adopted for its

protection. Attendees will be given a handout that summarizes the training material and provides a photographic key to differentiating between the western pond turtle and the red-eared slider, which is known to occur on site. This handout may be used by the Laton CSD or its contractor to train any construction personnel not in attendance at the initial training session. Attendance at all training sessions will be documented on sign-in sheets.

Mitigation Measure 3.3.1b (Construction Timing). Construction activities in the on-site fields should occur between November 1 and May 31, or outside of the annual time frame in which gravid females in the project vicinity typically seek out nest sites and lay eggs, eggs incubate, and hatchlings emerge.

Mitigation Measure 3.3.1c (Preconstruction Surveys). If construction in the fields must occur between June 1 and October 31, preconstruction surveys for western pond turtle nests will be conducted within 14 days prior to the start of construction. The presence of turtle eggshells and/or disturbed earth will indicate the potential presence of a nest. Such areas will be carefully hand-excavated by a qualified biologist, to determine whether a nest is present and to identify it to species, if possible.

Mitigation Measure 3.3.1d (Avoidance of Active Nests). Any turtle nest found during the preconstruction surveys that cannot be positively identified as belonging to the red-eared slider will be avoided by a minimum 50-foot buffer during construction. No construction personnel or equipment shall enter the avoidance area until after a qualified biologist has determined that the hatchlings have emerged.

Mitigation Measure 3.3.1e (Relocation of Turtle Eggs/Hatchlings). If it is not possible to avoid active turtle nests that cannot be positively identified as belonging to the red-eared slider, eggs and/or hatchlings will be relocated to nearby suitable habitat in consultation with a qualified herpetologist.

Mitigation Measure 3.3.1f (Minimization). Any western pond turtles found on site during construction will be allowed to move out of the work area unharmed.

Implementation of the above measures will reduce potential project impacts to the western pond turtle to a less than significant level under CEQA.

3.3.2 Potential Project Impacts to Swainson's Hawk

Potential Impacts. As discussed, the project site contains suitable nesting habitat for the Swainson's hawk, and a pair of Swainson's hawks were observed on site at the time of the field survey. The project may remove valley oak and other potential nest trees from an area of up to 4 acres to accommodate development of a solar array. Swainson's hawk individuals and regional populations are unlikely to be adversely affected from the loss of these potential nest trees, as many more trees will remain available in the larger Kings River corridor, including trees exposed

to considerably less ambient disturbance than what exists at the WWTP facility. However, if individuals of this species are nesting in trees to be removed, they could be injured or killed by project-related activities. Hawks nesting in other areas of the project site and on adjacent lands wouldn't be vulnerable to construction-related injury or mortality, but could be disturbed such that they would abandon their nest(s). Project activities that adversely affect the nesting success of Swainson's hawks or result in the mortality of individual hawks would violate state and federal laws (see Sections 3.2.3 to 3.2.5) and be considered a significant impact under CEQA.

The project will also result in the loss of approximately 3 acres of disturbed grassland habitat within which Swainson's hawks could presently forage. This habitat is unlikely to be important for Swainson's hawk individuals or populations under existing conditions, as it is frequently subjected to practices expected to limit prey densities, including discing, mowing, and flood irrigation. The earthen percolation basins to be developed in this 3-acre area could support some vertebrate and invertebrate prey during dry periods and be used periodically by foraging Swainson's hawks. Given the limited scale of project-related impacts to potential Swainson's hawk foraging habitat, the modest foraging opportunity that will remain in the area to be impacted, and the continued availability of similar or higher quality foraging habitat for this species elsewhere in the region, project-related loss of Swainson's hawk foraging habitat is considered a less than significant impact under CEQA.

Mitigation. To avoid and minimize the potential for construction-related mortality/disturbance of nesting Swainson's hawks, the following measures adapted from the Swainson's Hawk Technical Advisory Committee (SHTAC) 2000 *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* will be implemented.

Mitigation Measure 3.3.2a (Construction Timing). In order to avoid impacts to nesting Swainson's hawks, construction activities will occur, where possible, outside the nesting season, typically defined as March 1-September 15.

Mitigation Measure 3.3.2b (Preconstruction Surveys). If project-related activities must occur between March 1 and September 15, a qualified biologist will conduct preconstruction surveys for active Swainson's hawk nests within ½ mile of the sites in accordance with the SHTAC (2000) guidelines. The guidelines define five survey periods for Swainson's hawk: Period I: January 1-March 20; Period II: March 20-April 5; Period III: April 5-April 20; Period IV: April 21-June 10; and Period V: June 10-July 30. The guidelines prescribe a minimum of three surveys per survey period for at least the two

survey periods immediately prior to a project's initiation, and specifically recommend that surveys be completed in Periods II, III, and V.

Mitigation Measure 3.3.2c (Avoidance of Active Nests). Should any active Swainson's hawk nests be discovered within the survey area, an appropriate disturbance-free buffer will be established based on local conditions and agency guidelines. Disturbance-free buffers will be identified on the ground with flagging, fencing, or by other easily visible means, and will be maintained until a qualified biologist has determined that the young have fledged and are capable of foraging independently.

Implementation of the above measures will reduce potential project impacts to the Swainson's hawk to a less than significant level under CEQA, and will ensure that the project is in compliance with state laws protecting this species.

3.3.3 Potential Project Impacts to Other Nesting Birds and Raptors including Northern Harrier and Loggerhead Shrike

Potential Impacts. In addition to the Swainson's hawk, the project site has the potential to be used for nesting by a variety of birds and raptors protected by state law, possibly including the special status northern harrier (*Circus cyaneus*) and loggerhead shrike (*Lanius ludovicianus*). Avian nesting could occur in any of the site's habitats, in trees or ground vegetation or on buildings or other structures. If project construction takes place during the nesting season, birds nesting on the site could be injured or killed by construction activities, or disturbed such that they would abandon their nests. Significant construction-related disturbance is also a possibility for birds nesting adjacent to the project site. Construction-related mortality of nesting birds and disturbance leading to nest abandonment would violate state laws and constitute significant impacts of the project under CEQA.

The project will result in the loss of a small amount of potential nesting and foraging habitat for the northern harrier and loggerhead shrike. Similar habitats will continue to be available on site and elsewhere in the region following project development. The site's habitats are subjected to considerable anthropogenic disturbance under existing conditions and are not expected to be uniquely important for these species. Project-related loss of potential nesting and foraging habitat for the northern harrier and loggerhead shrike is considered a less than significant impact under CEQA.

Mitigation. To avoid and minimize the potential for construction-related mortality/disturbance of nesting birds and raptors, the following measures will be implemented:

Measure 3.3.3a (Construction Timing). If feasible, the project will be implemented outside of the avian nesting season, typically defined as February 1 to August 31.

Measure 3.3.3b (Preconstruction Surveys). If construction is to occur between February 1 and August 31, a qualified biologist will conduct pre-construction surveys for active bird nests within 14 days prior to the start of construction. The survey area will encompass the site and accessible surrounding lands within 500 feet for nesting raptors and 250 feet for nesting migratory birds.

Measure 3.3.3c (Avoidance of Active Nests). Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the young have fledged and are capable of foraging independently.

Implementation of the above measures will ensure that the project does not significantly impact the northern harrier, loggerhead shrike, or other birds or raptors as a result of construction mortality or disturbance, and that the project is in compliance with state laws protecting these species.

3.3.4 Potential Project Impacts to Roosting Bats Including the Pallid Bat and Townsend's Big-Eared Bat

Potential Impacts. The project site contains trees and buildings within which a number of native bat species could roost, possibly including three bats designated as California Species of Special Concern. The pallid bat (*Antrozous pallidus*) and Townsend's big eared bat (*Corynorhinus townsendii*) could roost in the site's lab/office building and possibly also the railroad trestle, and the latter two species also have the potential to roost in the site's mature trees. No structures will be removed by the project; however, trees may be removed from an area of up to 4 acres to accommodate development of a new solar array. If any of these trees contain bat maternity roosts, many individual bats could be killed. Such a mortality event would be considered a potentially significant impact of the project.

The project may result in the loss of a small amount of potential roosting habitat for the pallid bat and Townsend's big-eared bat associated with proposed tree removal. Similar habitats will

continue to be available in the immediately surrounding area following project development. The site's riparian trees are subjected to considerable anthropogenic disturbance under existing conditions and are not expected to represent uniquely important roosting habitat for these species. Loss of potential roosting habitat for special status bats is considered a less than significant impact of the project under CEQA. The project will not result in a significant loss of foraging habitat for the three special status bat species because the site is expected to remain suitable for foraging following project implementation.

Mitigation. The following measures will be implemented for the protection of roosting native bats including the pallid bat and Townsend's big-eared bat.

Mitigation Measure 3.3.4a (Construction Timing). To avoid potential impacts to maternity bat roosts, tree removal should occur outside of the period between April 15 and August 31, the time frame within which colony-roosting bats generally assemble, give birth, nurse their young, and ultimately disperse.

Mitigation Measure 3.3.4b (Preconstruction Surveys). If tree removal is to occur between April 15 and August 31 (general maternity bat roost season), a qualified biologist will survey suitable trees for the presence of bats within 30 days prior to their removal. The biologist will look for individuals, guano, and staining, and will listen for bat vocalizations. If necessary, the biologist will wait for nighttime emergence of bats from roost sites. If no bats are observed to be roosting or breeding, then no further action would be required, and construction could proceed.

Mitigation Measure 3.3.4c (Minimization). If a non-breeding bat roost is found in disturbance areas, the individuals will be humanely evicted via two-stage removal of buildings/trees, under the direction of a qualified biologist to ensure that no harm or "take" of any bats occurs as a result of construction activities.

Mitigation Measure 3.3.4d (Avoidance of Maternity Roosts). If a maternity colony is detected during preconstruction surveys, a disturbance-free buffer will be established around the colony and remain in place until a qualified biologist determines that the nursery is no longer active. The disturbance-free buffer will range from 50 to 100 feet as determined by the biologist.

Implementation of the above measures will reduce impacts to roosting native bats, including the pallid bat and Townsend's big-eared bat, to a less than significant level under CEQA.

3.3.5 Project Impacts to Riparian Habitat and Sensitive Natural Communities

Potential Impacts. As discussed, the project will impact up to 4 acres of disturbed riparian woodland characterized by a mix of valley oaks and ornamental trees. This habitat has been degraded by long-term discing, mowing, and other maintenance activities, and is not considered a sensitive natural community. However, the valley oaks remaining in this area are remnants of the native riparian woodland habitat that historically flanked the Kings River. It has been estimated that the extent of riparian forests in the Central Valley has been reduced by about 90%, with most remaining habitat in a disturbed or degraded condition (Katibah 1984). Retaining and restoring the habitat that remains is integral to the conservation of California's flora and fauna, many species of which are found only in riparian systems. Project-related loss of valley oaks or other native riparian trees would contribute to the cumulative decline of riparian forests in the Central Valley and be considered a significant impact under CEQA.

Mitigation. The following measures will be implemented to mitigate project-related loss of valley oaks and/or other native trees.

Mitigation Measure 3.3.5a. (Tree Survey). Prior to project construction, a qualified biologist will survey all riparian habitats of the project site, and will record the species, location, and diameter at breast height (DBH) of each native tree. Upon project completion, a qualified biologist will survey the site to determine if any surveyed trees were removed.

Mitigation Measure 3.3.5b. (Revegetation). The project applicant will provide compensation for removal of any native riparian trees. Replacement plantings will be installed at a ratio of 3:1 for trees with a DBH between 4 and 24 inches, and at a ratio of 10:1 for trees with a DBH greater than 24 inches. A revegetation plan will be prepared for the project that will detail the methods for planting, irrigating, and maintaining the replacement trees.

Implementation of these measures will reduce potential project impacts to riparian habitat to a less than significant level under CEQA.

3.4 LESS THAN SIGNIFICANT PROJECT IMPACTS

3.4.1 Project Impacts to Special Status Plant Species

Potential Impacts. Four special status plant species have been documented in the region, but do not have the potential to occur on site due to the absence of suitable habitat and/or the site's

being situated outside of the species' range (see Table 1). The proposed project would not affect regional populations of these species and impacts would be less than significant.

Mitigation. Mitigation measures are not warranted.

3.4.2 Project Impacts to Special Status Animal Species Absent from, or Unlikely to Occur on, the Project Site

Potential Impacts. Nine of the 15 regionally occurring special status animal species are considered absent from or unlikely to occur on the project site due to past and ongoing disturbance of the site and surrounding lands, the absence of suitable habitat, and/or the site's being situated outside of the species' current known range. These animals comprise the vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), California tiger salamander (*Ambystoma californiense*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), Tipton kangaroo rat (*Dipodomys nitratoideus nitratoideus*), San Joaquin kit fox, western spadefoot (*Spea hammondi*), California glossy snake (*Arizona elegans occidentalis*), and burrowing owl (*Athene cunicularia*) (see Table 1). The project does not have the potential to significantly impact these nine species through construction mortality or loss of habitat because there is little or no likelihood that they are present.

Mitigation. Project impacts to nine special status animals considered absent from or unlikely to occur on the site are less than significant under CEQA. Mitigation is not warranted.

3.4.3 Impacts to Wildlife Movement Corridors

Potential Impacts. The project site does not contain features likely to function as a wildlife movement corridor; however, the Kings River corridor is located immediately adjacent to the site. Any animals using this corridor during construction may experience visual or noise disturbance from construction activities. Given the high levels of ambient disturbance that already occur in the area from WWTP operations, agricultural activities, and train passage, project construction is not expected to substantially interfere with use of this corridor. Following construction, anthropogenic disturbance in the area will return to baseline levels.

The project will have no effect on the Pacific flyway; birds using the flyway will continue to do so during and following project development.

Mitigation. Impacts to wildlife movement corridors are considered less than significant under CEQA. Mitigation is not warranted.

3.4.4 Project Impacts to Critical Habitat

Potential Impacts. The project will have no effect on designated critical habitat because critical habitat is absent from the project site and surrounding lands.

Mitigation. Mitigation is not warranted.

3.4.5 Potential Project Impacts to Waters of the U.S. and State

Potential Impacts. Possible construction of an effluent pipeline to the Laton High School athletic fields may impact a portion of the Grant Canal, which may be claimed by the USACE because it appears to be hydrologically connected to other Waters of the U.S. Impacts to this canal, if they occur at all, would be extremely limited in scale and are not expected to affect the function or value of this aquatic resource.

The Grant Canal, adjacent "A" Ditch, and WWTP treatment ponds are subject to the regulatory authority of the RWQCB. Impacts to the Grant Canal and "A" Ditch would comprise installation of the effluent pipeline, if it is retained in final project design. Impacts to the treatment ponds would comprise fill of a small portion of Pond 4 to accommodate development of the WWTP's new aeration basins, clarifier, and headworks. Impacts to Waters of the State will be extremely limited in scale, and the project will result in a net gain of such waters due to the creation of two new percolation ponds.

For these reasons, impacts to Waters of the U.S. and Waters of the State are considered less than significant under CEQA.

Mitigation. Mitigations are not warranted.

3.4.6 Local Policies or Habitat Conservation Plans

Potential Impacts. Implementation of mitigation measures presented in Section 3.3 will ensure that the project will remain consistent with the goals and policies of the Fresno County General Plan. Section 3.3.5 requires replacement of any valley oak or other native riparian trees that are removed as part of the project to offset significant impacts to riparian resources. This is technically not consistent with General Plan policies that require preservation of riparian habitats. However, General Plan policy OS-D.6 appears to allow an exception to the riparian preservation requirement when public safety is at issue, and WWTP upkeep arguably has a bearing on public safety.

Mitigation. The proposed project will be consistent with the goals and policies of the Fresno County General Plan with implementation of the mitigation measures presented in Section 3.3, and considering that the WWTP is an essential facility that directly affects public safety. Therefore, no further mitigation is required.

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APPENDIX A: VASCULAR PLANTS OF THE PROJECT SITE

APPENDIX A: VASCULAR PLANTS OF THE PROJECT SITE

The plant species listed below were observed on or adjacent to the project site by LOA during a field survey conducted on March 28, 2019. The U.S. Fish and Wildlife Service wetland indicator status of each plant has been shown following its common name.

OBL - Obligate
 FACW - Facultative Wetland
 FAC - Facultative
 FACU - Facultative Upland
 UPL - Upland

ADOXACEAE - Moschatel Family

<i>Sambucus nigra</i>	Black Elderberry	FAC
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ASTERACEAE – Aster Family

<i>Erigeron canadensis</i>	Canada Horseweed	FACU
<i>Helianthus annuus</i>	Common Sunflower	FACU
<i>Pseudognaphalium luteoalbum</i>	Jersey Cudweed	FAC
<i>Sonchus asper</i>	Prickly Sow Thistle	FAC

BORAGINACEAE – Borage Family

<i>Amsinckia intermedia</i>	Common Fiddleneck	UPL
<i>Amsinckia menziesii</i>	Menzies Fiddleneck	UPL

BRASSICACEAE – Mustard Family

<i>Sisymbrium irio</i>	London Rocket	UPL
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CARYOPHYLLACEAE – Carnation Family

<i>Stellaria media</i>	Chickweed	FACU
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CHENOPODIACEAE – Goosefoot Family

<i>Salsola tragus</i>	Russian Thistle	FACU
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FABACEAE- Legume Family

<i>Melilotus indicus</i>	Annual Yellow Sweetclover	FACU
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FAGACEAE- Oak Family

<i>Quercus lobata</i>	Valley Oak	FACU
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GERANIACEAE – Geranium Family

<i>Erodium cicutarium</i>	Red-stemmed Filaree	UPL
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MALVACEAE – Mallow Family

<i>Malva parviflora</i>	Alkali Mallow	UPL
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PHRYMACEAE-

<i>Erythranthe guttata</i>	Yellow Monkey Flower	OBL
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POACEAE – Grass Family

<i>Bromus diandrus</i>	Ripgut	UPL
<i>Cynodon dactylon</i>	Bermuda Grass	FACU
<i>Hordeum murinum</i>	Barnyard Barley	FACU
<i>Leptochloa fusca</i>	Sprangletop	FACW
<i>Poa annua</i>	Annual Bluegrass	FACU
<i>Sorghum halepense</i>	Johnsongrass	FACU

POLYGONACEAE – Smartweed Family

Persicaria lapathifolia

Pale Smartweed

FACW

SIMAROUBACEAE- Quassia Family

Ailanthus altissima

Tree of Heaven

FACU

URTICACEAE – Stinging Nettle Family

Urtica urens

Dwarf Nettle

UPL

**APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY
OCCUR ON THE PROJECT SITE**

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE PROJECT SITE

The species listed below are those that may reasonably be expected to use the habitats of the project site routinely or from time to time. The list was not intended to include birds that are vagrants or occasional transients. Terrestrial vertebrate species observed in or adjacent to the project site by LOA on March 28, 2019 have been noted with an asterisk.

CLASS: AMPHIBIA

ORDER: ANURA (Frogs and Toads)

FAMILY: BUFONIDAE (True Toads)

Western Toad (*Bufo boreas*)

FAMILY: HYLIDAE (Treefrogs and Relatives)

Pacific Tree Frog (*Pseudacris regilla*)

CLASS: REPTILIA

ORDER: SQUAMATA (Lizards and Snakes)

SUBORDER: SAURIA (Lizards)

FAMILY: PHRYNOSOMATIDAE

*Western Fence Lizard (*Sceloporus occidentalis*)

FAMILY: TEIIDAE (Whiptails and relatives)

Western Whiptail (*Cnemidophorus tigris*)

SUBORDER: SERPENTES (Snakes)

FAMILY: COLUBRIDAE (Colubrids)

Pacific Gopher Snake (*Pituophis melanoleucus*)

Common Kingsnake (*Lampropeltis getula*)

Common Gartersnake (*Thamnophis sirtalis*)

FAMILY: VIPERIDAE (Vipers)

Western Rattlesnake (*Crotalus viridis*)

ORDER: TESTUDINES

SUBORDER: CRYPTODIRA

FAMILY: EMYDIDAE

Western Pond Turtle (*Actinemys marmorata*)

*Red-eared Slider (*Trachemys scripta*)

CLASS: AVES

ORDER: ANSERIFORMES (Ducks, Geese, and Swans)

FAMILY: ANATIDAE (Ducks, Geese, and Swans)

*Wood Duck (*Aix sponsa*)

*Mallard (*Anas platyrhynchos*)

Cinnamon Teal (*Anas cyanoptera*)

Gadwall (*Anas strepera*)

Northern Shoveler (*Anas clypeata*)

Ruddy Duck (*Oxyura jamaicensis*)

Lesser Scaup (*Aythya affinis*)

ORDER: PODICIPEDIFORMES (Grebes)

FAMILY: PODICIPEDIDAE (Grebes)

Pied-billed Grebe (*Podilymbus podiceps*)

ORDER: CICONIIFORMES (Hérons, Storks, Ibises and Relatives)
FAMILY: ARDEIDAE (Bitterns, Herons, and Egrets)
 Great Blue Heron (*Ardea herodias*)
 Great Egret (*Ardea alba*)
 Cattle Egret (*Bubulcus ibis*)
FAMILY: CATHARTIDAE (New World Vultures)
 Turkey Vulture (*Cathartes aura*)
ORDER: FALCONIFORMES (Vultures, Hawks, and Falcons)
FAMILY: ACCIPITRIDAE (Hawks, Old World Vultures, and Harriers)
 Northern Harrier (*Circus cyaneus*)
 *Red-tailed Hawk (*Buteo jamaicensis*)
 Red-shouldered Hawk (*Buteo lineatus*)
 *Swainson's Hawk (*Buteo swainsoni*)
FAMILY: FALCONIDAE (Caracaras and Falcons)
 American Kestrel (*Falco sparverius*)
ORDER: GALLIFORMES (Megapodes, Currassows, Pheasants, and Relatives)
FAMILY: ODONTOPHORIDAE (New World Quails)
 California Quail (*Callipepla californica*)
ORDER: GRUIFORMES (Cranes and Rails)
FAMILY: RALLIDAE (Rails, Gallinules, and Coots)
 American Coot (*Fulica americana*)
ORDER: CHARADRIIFORMES (Shorebirds, Gulls, and relatives)
FAMILY: CHARADRIIDAE (Plovers and relatives)
 *Killdeer (*Charadrius vociferus*)
FAMILY: RECURVIROSTRIDAE (Stilts and Avocets)
 *Black-necked Stilt (*Himantopus mexicanus*)
 American Avocet (*Recurvirostra americana*)
FAMILY: SCOLOPACIDAE (Sandpipers and Allies)
 Wilson's Snipe (*Gallinago delicata*)
 Greater Yellowlegs (*Tringa melanoleuca*)
 Lesser Yellowlegs (*Tringa flavipes*)
 Least Sandpiper (*Calidris minutilla*)
ORDER: COLUMBIFORMES (Pigeons and Doves)
FAMILY: COLUMBIDAE (Pigeons and Doves)
 Rock Pigeon (*Columba livia*)
 *Mourning Dove (*Zenaida macroura*)
 Eurasian Collared Dove (*Streptopelia decaocto*)
ORDER: STRIGIFORMES (Owls)
FAMILY: TYTONIDAE (Barn Owls)
 Barn Owl (*Tyto alba*)
FAMILY: STRIGIDAE (Typical Owls)
 Great Horned Owl (*Bubo virginianus*)
ORDER: CAPRIMULGIFORMES (Goatsuckers and Relatives)
FAMILY: CAPRIMULGIDAE (Goatsuckers)
 Lesser Nighthawk (*Chordeiles acutipennis*)
ORDER: APODIFORMES (Swifts and Hummingbirds)

FAMILY: TROCHILIDAE (Hummingbirds)

*Anna's Hummingbird (*Calypte anna*)

ORDER: PICIFORMES (Woodpeckers and Allies)

FAMILY: PICIDAE (Woodpeckers)

*Nuttall's Woodpecker (*Picoides nuttallii*)

Northern Flicker (*Colaptes auratus*)

*Acorn Woodpecker (*Melanerpes formicivorus*)

ORDER: PASSERIFORMES (Perching Birds)

FAMILY: TYRANNIDAE (Tyrant Flycatchers)

*Black Phoebe (*Sayornis nigricans*)

Say's Phoebe (*Sayornis saya*)

*Western Kingbird (*Tyrannus verticalis*)

FAMILY: LANIIDAE (Shrikes)

Loggerhead Shrike (*Lanius ludovicianus*)

FAMILY: CORVIDAE (Jays, Magpies, and Crows)

*California Scrub Jay (*Aphelocoma coerulescens*)

*American Crow (*Corvus brachyrhynchos*)

Common Raven (*Corvus corax*)

FAMILY: ALAUDIDAE (Larks)

Horned Lark (*Eremophila alpestris*)

FAMILY: HIRUNDINIDAE (Swallows)

*Cliff Swallow (*Petrochelidon pyrrhonota*)

Barn Swallow (*Hirundo rustica*)

Northern Rough-winged Swallow (*Stelgidopteryx serripennis*)

FAMILY: TROGLODYTIDAE (Wrens)

House Wren (*Troglodytes aedon*)

FAMILY: TURDIDAE (Thrushes)

*Western Bluebird (*Sialia mexicana*)

American Robin (*Turdus migratorius*)

FAMILY: MIMIDAE (Mockingbirds and Thrashers)

*Northern Mockingbird (*Mimus polyglottos*)

FAMILY: STURNIDAE (Starlings and Allies)

*European Starling (*Sturnus vulgaris*)

FAMILY: MOTACILLIDAE (Wagtails and Pipits)

American Pipit (*Anthus rubescens*)

FAMILY: PASSERELLIDAE (New World Sparrows and Towhees)

Savannah Sparrow (*Passerculus sandwichensis*)

*White-crowned Sparrow (*Zonotrichia leucophrys*)

Golden-crowned Sparrow (*Zonotrichia atricapilla*)

Dark-eyed Junco (*Junco hyemalis*)

FAMILY: ICTERIDAE (Blackbirds, Orioles and Allies)

Western Meadowlark (*Sturnella neglecta*)

Brewer's Blackbird (*Euphagus cyanocephalus*)

Brown-headed Cowbird (*Molothrus ater*)

*Bullock's Oriole (*Icterus bullocki*)

Red-winged Blackbird (*Agelaius phoeniceus*)

FAMILY: FRINGILLIDAE (Finches)

*House Finch (*Haemorrhous mexicanus*)

Lesser Goldfinch (*Carduelis psaltria*)

FAMILY: PARULIDAE (New World Warblers)

*Yellow-rumped Warbler (*Setophaga coronata*)

FAMILY: PASSERIDAE (Old World Sparrows)

House Sparrow (*Passer domesticus*)

CLASS: MAMMALIA

ORDER: DIDELPHIMORPHIA (Marsupials)

FAMILY: DIDELPHIDAE (Opossums)

Virginia Opossum (*Didelphis virginiana*)

ORDER: INSECTIVORA (Shrews and Moles)

FAMILY: TALPIDAE (Moles)

Broad-footed Mole (*Scapanus latimanus*)

ORDER: CHIROPTERA (Bats)

FAMILY: VESPERTILIONIDAE (Vespertilionid Bats)

Yuma Myotis (*Myotis yumanensis*)

California Myotis (*Myotis californicus*)

Western Pipistrelle (*Pipistrellus hesperus*)

Big Brown Bat (*Eptesicus fuscus*)

Pale Big-eared Bat (*Corynorhinus townsendii pallescens*)

FAMILY: MOLOSSIDAE (Free-tailed Bat)

Brazilian Free-tailed Bat (*Tadarida brasiliensis*)

ORDER: LAGOMORPHA (Rabbits, Hares, and Pikas)

FAMILY: LEPORIDAE (Rabbits and Hares)

Desert Cottontail (*Sylvilagus audubonii*)

Black-tailed Jackrabbit (*Lepus californicus*)

ORDER: RODENTIA (Rodents)

FAMILY: SCIURIDAE (Squirrels, Chipmunks, and Marmots)

*California Ground Squirrel (*Otospermophilus beecheyi*)

FAMILY: GEOMYIDAE (Pocket Gophers)

*Botta's Pocket Gopher (*Thomomys bottae*)

FAMILY: MURIDAE (Mice, Rats and Voles)

Western Harvest Mouse (*Reithrodontomys megalotis*)

Deer Mouse (*Peromyscus maniculatus*)

Norway Rat (*Rattus norvegicus*)

House Mouse (*Mus musculus*)

California Vole (*Microtus californicus*)

FAMILY: HETEROMYIDAE (Kangaroo Rats)

Heermann's Kangaroo Rat (*Dipodomys heermanni*)

ORDER: CARNIVORA (Carnivores)

FAMILY: CANIDAE (Foxes, Wolves, and Relatives)

Coyote (*Canis latrans*)

Red Fox (*Vulpes vulpes*)

Gray Fox (*Urocyon cinereoargenteus*)

FAMILY: PROCYONIDAE (Raccoons and Relatives)

Raccoon (*Procyon lotor*)

FAMILY: MUSTELIDAE (Weasels and Relatives)

Striped Skunk (*Mephitis mephitis*)

FAMILY: FELIDAE (Cats)

*Feral Cat (*Felis cattus*)

APPENDIX C: SELECTED PHOTOGRAPHS OF THE PROJECT SITE



Photo 1 (above): Existing WWTP headworks and concrete aeration basins. **Photo 2 (below):** Pond 4, one of four percolation ponds that were inundated at the time of the survey.





Photo 3 (above): One of two percolation ponds that were dry at the time of the survey. **Photo 4 (below):** Fields of the WWTP used for effluent overflow.





Photo 5 (above): Disturbed riparian woodland habitat within the WWTP facility, showing maintained understory. **Photo 6 (below):** Facing north along the approximate route of the effluent pipeline to the school athletic fields; shown are the parallel Grant Canal and “A” Ditch.





Photo 7 (above): Facing west along the approximate route of the effluent pipeline to the county park; shown is the railroad trestle.

APPENDIX D

CULTURAL RESOURCES REPORT

WASTEWATER TREATMENT AND DISPOSAL

FACILITIES IMPROVEMENT PROJECT

LATON COMMUNITY SERVICES DISTRICT

**CLASS III INVENTORY/PHASE I SURVEY,
LATON CSD WASTEWATER PROJECT,
FRESNO COUNTY, CALIFORNIA**

Prepared for:

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MANAGEMENT SUMMARY

An intensive Class III cultural resources inventory/Phase I survey was conducted for the Laton Community Services District (CSD) Wastewater Treatment Facility Project, Fresno County, California. ASM Affiliates, Inc., conducted this study, with David S. Whitley, Ph.D., RPA, serving as principal investigator. The study was undertaken to assist with the regulatory requirements for compliance with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA).

A records search of site files and maps was completed at the Southern San Joaquin Valley Archaeological Information Center (IC), California State University, Bakersfield. A Sacred Lands File Request was also completed by the Native American Heritage Commission (NAHC). These investigations determined that the study area had only been partially surveyed previously, and that two historic resources were known to exist within it: the Grant/Laguna de Tache Canal (P-10-4420), which been determined not eligible for the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR); and the Atchison, Topeka and Santa Fe (ATSF) rail road (P-16-120), recommended as not eligible. Outreach and request for consultation letters were sent to tribal organizations on the contact list provided by the NAHC. Follow-up phone calls were also made to the contact list. The Santa Rosa Rancheria – Tachi Yokuts Tribe responded by email stating that the Project area is sensitive. They requested that a tribal monitor be present during ground surface excavation.

The Class III inventory/Phase I survey fieldwork was conducted with parallel transects spaced at 15-meter intervals walked along the approximately 116.4-acres (ac) area of potential effect (APE). Two segments of one previously recorded cultural resource, the Grant/Laguna de Tache Canal (P-10-4420) and one segment of the ATSF (P-16-120), were re-identified and recorded. Concurring with the previous determination, we recommend these resources as not NRHP/CRHR eligible due to lack of integrity. No other cultural resources of any kind were identified within the APE.

Based on these findings, the construction of the Laton CSD Wastewater Treatment Facility Project does not have the potential to result in adverse impacts or effects to significant historical resources or historic properties, and a determination of no significant impact under CEQA and no adverse effect to historic properties under Section 106 are recommended. In the unlikely event that cultural resources are identified during the project, it is recommended that a qualified archaeologist be contacted to evaluate the newly discovered resource. No additional archaeological work is recommended for this project. Following the request by the Santa Rosa Rancheria – Tachi Yokuts Tribe, however, it is recommended that a tribal monitor be present during grading.

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1. INTRODUCTION AND REGULATORY CONTEXT

ASM Affiliates, Inc., was retained by the Laton CSD to conduct an intensive Class III cultural resources inventory/Phase I survey for the Laton Wastewater Treatment Project (Project), Laton, Fresno County, California. The Project study area is located in Sections 22, 27 and 28, Township 17 South, Range 21 East, Mount Diablo Base and Meridian (MDBM). The study was undertaken to assist with compliance with the regulatory requirements for compliance with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA). The investigation was conducted, specifically, to ensure that significant impacts or adverse effects to historical resources or historic properties do not occur as a result of project construction.

This current study included:

- A background records search and literature review to determine if any known cultural resources were present in the project zone and/or whether the area had been previously and systematically studied by archaeologists;
- An on-foot, intensive inventory of the study area to identify and record previously undiscovered cultural resources and to examine known sites; and
- A preliminary assessment of any such resources found within the subject property.

David S. Whitley, Ph.D., RPA, served as principal investigator and ASM Associate Archaeologist/Crew Chief Robert Azpitarte, B.A., conducted the fieldwork with the assistance of ASM Assistant Archaeologist Daniela Medin, B.A.

This document constitutes a report on the Class III inventory/Phase I survey. Subsequent chapters provide background to the investigation, including historic context studies; the findings of the archival records search; Native American consultation; a summary of the field surveying techniques employed; and the results of the fieldwork. We conclude with management recommendations for the study area.

1.1 PROJECT LOCATION

The Laton CSD Wastewater Treatment Facility Project Area of Potential Effect (APE) consists of two non-contiguous study areas, which will be linked by a pipeline, located between the bank of the Kings River, to the south, and the community of Laton, to the north. The Grant/Laguna de Tache Canal runs through both Project study areas. The eastern study area includes the existing wastewater treatment facility and undeveloped land further east. This study area extends north of the canal into the athletic fields of the Laton High School, near the eastern limits of the community. The Burlington Northern and Santa Fe (BNSF; formerly the Atchison, Topeka and Santa Fe, ATSF) railroad is the western boundary of this study area. A pipeline will run along an existing dirt road and under an existing rail road underpass to connect the two study areas. The western study area is bounded on the east by Fowler Avenue and to the north by East Mount Whitney Avenue. The "Old Kingstone Grade," a paved road, is the west boundary of the western study area. The Kingston – Laton Park forms the southern portion of the western study area, with an additional

area, known as the “School Farm,” north of the canal. Elevation within the Project APE, which is very flat, ranges between 250-feet (ft) above mean sea level (amsl) and 255-ft amsl.

1.2 PROJECT DESCRIPTION AND APE

The Laton CSD Wastewater Treatment Facility was constructed in 1962 and requires an upgrade to meet current standards and increased demand. The proposed Project is intended to upgrade the facility and lower operation costs. It will include the construction of a new treatment pond and creation of new treatment facilities along with the construction of a solar system to lower electrical costs. A pipeline will also be required, crossing the Grant/Laguna de Tache Canal in one or possibly two locations. A second pipeline will connect the two study areas following an existing dirt road and crossing under an existing rail road underpass.

The Project horizontal APE will contain all construction, staging, and lay-down areas for the Project. It is constrained by the total 116.4-acres property ownership boundaries and interconnecting pipeline route. The vertical APE is the depth of maximum ground surface disturbance/grading for basin construction, and is set at 10-ft.

1.3 REGULATORY CONTEXT

1.3.1 CEQA

CEQA is applicable to discretionary actions by state or local lead agencies. Under CEQA, lead agencies must analyze impacts to cultural resources. Significant impacts under CEQA occur when “historically significant” or “unique” cultural resources are adversely affected, which occurs when such resources could be altered or destroyed through project implementation. Historically significant cultural resources are defined by eligibility for or by listing in the California Register of Historical Resources (CRHR). In practice, the federal NRHP criteria (below) for significance applied under Section 106 are generally (although not entirely) consistent with CRHR criteria (see PRC § 5024.1, Title 14 CCR, Section 4852 and § 15064.5(a)(3)).

Significant cultural resources are those archaeological resources and historical properties that:

- (A) Are associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- (B) Are associated with the lives of persons important in our past;
- (C) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or
- (D) Have yielded, or may be likely to yield, information important in prehistory or history.

Unique resources under CEQA, in slight contrast, are those that represent:

An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC § 21083.2(g)).

Preservation in place is the preferred approach under CEQA to mitigating adverse impacts to significant or unique cultural resources.

1.3.2 National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (Title 16 USC 470; 36 CFR Part 800) is applicable to federal undertakings, including projects financed or permitted by federal agencies, regardless of whether the activities occur on land that is managed by federal agencies, other governmental agencies, or private landowners. Its purpose is to determine whether adverse effects will occur to significant cultural resources, defined as “historical properties” that are listed in or determined eligible for listing in the National Register of Historic Places (NRHP). The criteria for NRHP eligibility are defined at 36 CFR § 60.4 and include:

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 that:

- (a) are associated with events that have made a significant contribution to the broad patterns of our history; or,
- (b) are associated with the lives of persons significant in our past; or,
- (c) 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) have yielded or may be likely to yield, information important in prehistory or history.

There are, however, restrictions to the kinds of historical properties that can be NRHP listed. These have been identified by the Advisory Council on Historic Preservation (ACHP), as follows:

Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the NRHP. However, such properties will

qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- (a) A religious property deriving primary significance from architectural or artistic distinction or historical importance; or,
- (b) A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or,
- (c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life; or,
- (d) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or,
- (e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or,
- (f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or,
- (g) A property achieving significance within the past 50 years if it is of exceptional importance. (<http://www.achp.gov/nrccriteria.html>)

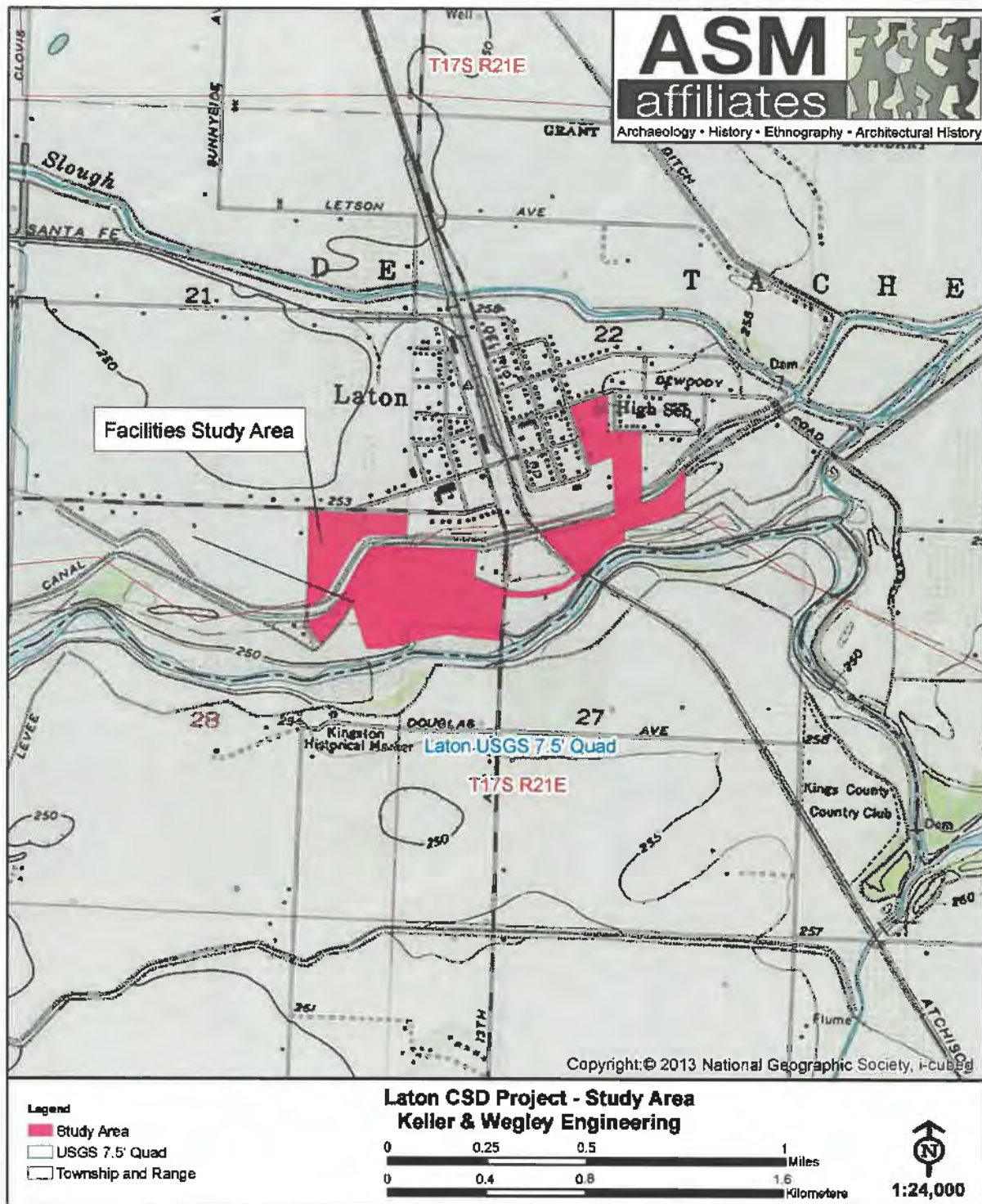


Figure 1. Location of the Laton CSD Wastewater Treatment Facility Project, Fresno County, California.

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2. ENVIRONMENTAL AND CULTURAL BACKGROUND

2.1 ENVIRONMENTAL BACKGROUND AND GEOARCHAEOLOGICAL SENSITIVITY

As noted above, the study area is located at elevations between 250 to 255-ft amsl on the open flats of the San Joaquin Valley. The study area is situated immediately north of the Kings River, northeast of the historic shoreline of Tule Lake.

Prior to the appearance of agriculture, starting in the nineteenth century, this location would have been prairie grasslands (Preston 1981). Historically, and likely prehistorically, riparian environments would have been present along the drainages, waterways and marshes. The study area and immediate surroundings have been farmed and grazed for many years and no native vegetation is present. Perennial bunchgrasses such as purple needlegrass and nodding needlegrass most likely would have been the dominant plant cover in the study area prior to cultivation.

The study area falls on the Kings River Fan. According to the geoarchaeological model developed by Meyer et al. (2010), the study area has a moderate potential for buried archaeological deposits. Buried sites and cultural resources therefore potentially may be present within the Project APE.

2.2 ETHNOGRAPHIC BACKGROUND

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. Ethnographic information about the Yokuts was collected primarily by Powers (1971, 1976 [originally 1877]), Kroeber (1925), Gayton (1930, 1948), Driver (1937), Latta (1977) and Harrington (n.d.). For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes who occupied both the valley and particularly the foothills of the Sierra. The northernmost tribes suffered from the influx of Euro-Americans during the Gold Rush and their populations were in substantial decline by the time ethnographic studies began in the early twentieth century. In contrast, the southernmost tribes were partially removed by the Spanish to missions and eventually absorbed into multi-tribal communities on the Sebastian Indian Reservation (on Tejon Ranch), and later the Tule River Reservation and Santa Rosa Rancheria, near Lemoore. The result is an unfortunate scarcity of ethnographic detail on southern Valley tribes, especially in relation to the rich information collected from the central foothills tribes where native speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous life-ways were similar across the broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

Kroeber (1925) and Latta (1977) place the south side of the Kings River in Nutúnutu territory. Latta notes that:

“The Nutunutu village at old Kingston, on the south bank of the Kings River below present Laton, was known as Kadistan. Across the river...was the Nutunutu village of Cheo” (1977:164).

No historic villages are recorded for the immediate project area, per se, by Kroeber (1925) or by Latta (1977), however.

The Yokuts settlement pattern was largely consistent, regardless of specific tribe involved. Winter villages were typically located along lakeshores and major stream courses (as these existed circa AD 1800), with dispersal phase family camps located at elevated spots on the valley floor and near gathering areas in the foothills.

Most Yokuts groups, again regardless of specific tribal affiliation, were organized as a recognized and distinct tribelet; a circumstance that almost certainly pertained to the tribal groups noted above. Tribelets were land-owning groups organized around a central village and linked by shared territory and descent from a common ancestor. The population of most tribelets ranged from about 150 to 500 peoples (Kroeber 1925).

Each tribelet was headed by a chief who was assisted by a variety of assistants, the most important of whom was the *winatum*, a herald or messenger and assistant chief. A shaman also served as religious officer. While shamans did not have any direct political authority, as Gayton (1930) has illustrated, they maintained substantial influence within their tribelet.

Shamanism is a religious system common to most Native American tribes. It involves a direct and personal relationship between the individual and the supernatural world enacted by entering a trance or hallucinatory state (usually based on the ingestion of psychotropic plants, such as jimsonweed or more typically native tobacco). Shamans were considered individuals with an unusual degree of supernatural power, serving as healers or curers, diviners, and controllers of natural phenomena (such as rain or thunder). Shamans also produced the rock art of this region, depicting the visions they experienced in vision quests believed to represent their spirit helpers and events in the supernatural realm (Whitley 1992, 2000).

The centrality of shamanism to the religious and spiritual life of the Yokuts was demonstrated by the role of shamans in the yearly ceremonial round. The ritual round, performed the same each year, started in the spring with the jimsonweed ceremony, followed by rattlesnake dance and (where appropriate) first salmon ceremony. After returning from seed camps, fall rituals began in the late summer with the mourning ceremony, followed by first seed and acorn rites and then bear dance (Gayton 1930:379). In each case, shamans served as ceremonial officials responsible for specific dances involving a display of their supernatural powers (Kroeber 1925).

Subsistence practices varied from tribelet to tribelet based on the environment of residence. Throughout Native California, and Yokuts territory in general, the acorn was a primary dietary component, along with a variety of gathered seeds. Valley tribes augmented this resource with lacustrine and riverine foods, especially fish and wildfowl. As with many Native California tribes, the settlement and subsistence rounds included the winter aggregation into a few large villages, where stored resources (like acorns) served as staples, followed by dispersal into smaller camps,

often occupied by extended families, where seasonally available resources would be gathered and consumed.

Although population estimates vary and population size was greatly affected by the introduction of Euro-American diseases and social disruption, the Yokuts were one of the largest, most successful groups in Native California. Cook (1978) estimates that the Yokuts region contained 27 percent of the aboriginal population in the state at the time of contact; other estimates are even higher. Many Yokuts people continue to reside in the southern San Joaquin Valley today.

2.3 PRE-CONTACT ARCHAEOLOGICAL BACKGROUND

The southern San Joaquin Valley region has received minimal archaeological attention compared to other areas of the state. In part, this is because the majority of California archaeological work has concentrated in the Sacramento Delta, Santa Barbara Channel, and central Mojave Desert areas (see Moratto 1984). Although knowledge of the region's prehistory is limited, enough is known to determine that the archaeological record is broadly similar to south-central California as a whole (see Gifford and Schenk 1926; Hewes 1941; Wedel 1941; Fenenga 1952; Elsasser 1962; Fredrickson and Grossman 1977; Schiffman and Garfinkel 1981). Based on these sources, the general prehistory of the region can be outlined as follows.

Initial occupation of the region occurred at least as early as the *Paleoindian Period*, or prior to about 10,000 years before present (YBP). Evidence of early use of the region is indicated by characteristic fluted and stemmed points found around the margin of Tulare Lake, in the foothills of the Sierra, and in the Mojave Desert proper.

Both fluted and stemmed points are particularly common around lake margins, suggesting a terminal Pleistocene/early Holocene lakeshore adaptation similar to that found throughout the far west at the same time; little else is known about these earliest peoples. Over 250 fluted points have been recovered from the Witt Site (CA-KIN-32), located along the western shoreline of ancient Tulare Lake south of the study area, demonstrating the importance of this early occupation in the San Joaquin Valley specifically (see Fenenga 1993). Additional finds consist of a Clovis-like projectile point discovered in a flash-flood cut-bank near White Oak Lodge in 1953 on Tejon Ranch (Glennan 1987a, 1987b). More recently, a similar fluted point was found near Bakersfield (Zimmerman et al. 1989), and a number are known from the Edwards Air Force Base and Boron area of the western Mojave Desert. Although human occupation of the state is well-established during the Late Pleistocene, relatively little can be inferred about the nature and distribution of this occupation with a few exceptions. First, little evidence exists to support the idea that people at that time were big-game hunters, similar to those found on the Great Plains. Second, the western Mojave Desert evidence suggests small, very immobile populations that left a minimal archaeological signature. The evidence from the ancient Tulare Lake shore, in contrast, suggests much more substantial population and settlements which, instead of relying on big game hunting, were tied to the lacustrine lake edge. Variability in subsistence and settlement patterns is thus apparent in California, in contrast to the Great Plains.

Substantial evidence for human occupation across California, however, first occurs during the middle Holocene, roughly 7,500 to 4,000 YBP. This period is known as the *Early Horizon*, or

alternatively as the Early Millingstone along the Santa Barbara Channel. In the south, populations concentrated along the coast with minimal visible use of inland areas. Adaptation emphasized hard seeds and nuts with tool-kits dominated by mullers and grindstones (manos and metates). Additionally, little evidence for Early Horizon occupation exists in most inland portions of the state, partly due to a severe cold and dry paleoclimatic period occurring at this time, although a site deposit dating to this age has been identified along the ancient Buena Vista shoreline in Kern County to the south (Rosenthal et al. 2007). Regardless of specifics, Early Horizon population density was low with a subsistence adaptation more likely tied to plant food gathering than hunting.

Environmental conditions improved dramatically after about 4,000 YBP during the *Middle Horizon* (or Intermediate Period). This period is known climatically as the Holocene Maximum (circa 3,800 YBP) and was characterized by significantly warmer and wetter conditions than previously experienced. It was marked archaeologically by large population increase and radiation into new environments along coastal and interior south-central California and the Mojave Desert (Whitley 2000). In the Delta region to the north, this same period of favorable environmental conditions was characterized by the appearance of the Windmiller culture which exhibited a high degree of ritual elaboration (especially in burial practices) and perhaps even a rudimentary mound-building tradition (Meighan, personal communication, 1985). Along with ritual elaboration, Middle Horizon times experienced increasing subsistence specialization, perhaps correlating with the appearance of acorn processing technology. Penutian speaking peoples (including the Yokuts) are also posited to have entered the state roughly at the beginning of this period and, perhaps to have brought this technology with them (cf. Moratto 1984). Likewise, it appears the so-called "Shoshonean Wedge" in southern California, the Takic speaking groups that include the Gabrielino/Fernandefio, Tataviam and Kitaneinuk, may have moved into the region at that time (Sutton 2009, rather than at about 1500 YBP as first suggested by Kroeber (1925).

Evidence for Middle Horizon occupation of interior south-central California is substantial. For example, in northern Los Angeles County along the upper Santa Clara River, to the south of the San Joaquin Valley, the Agua Dulce village complex indicates occupation extending back to the Intermediate Period, when the population of the village may have been 50 or more people (King et al n.d.). Similarly, inhabitation of the Hathaway Ranch region near Lake Piru, and the Newhall Ranch near Valencia, appears to date to the Intermediate Period (W & S Consultants 1994). To the west, little or no evidence exists for pre-Middle Horizon occupation in the upper Sisquoc and Cuyama River drainages; populations first appear there at roughly 3,500 YBP (Horne 1981). The Carrizo Plain, the valley immediately west of the San Joaquin, experienced a major population expansion during the Middle Horizon (W & S Consultants 2004; Whitley et al. 2007), and recently collected data indicates the Tehachapi Mountains region was first significantly occupied during the Middle Horizon (W & S Consultants 2006). A parallel can be drawn to the inland Ventura County region where a similar pattern has been identified (Whitley and Beaudry 1991), as well as the western Mojave Desert (Sutton 1988a, 1988b), the southern Sierra Nevada (W & S Consultants 1999), and the Coso Range region (Whitley et al. 1988). In all of these areas a major expansion in settlement, the establishment of large site complexes and an increase in the range of environments exploited appear to have occurred sometime roughly around 4,000 years ago. Although most efforts to explain this expansion have focused on local circumstances and events, it is increasingly apparent this was a major southern California-wide occurrence and any explanation must be sought at a larger level of analysis (Whitley 2000). Additionally, evidence from the Carrizo Plain suggests

the origins of the tribelet level of political organization developed during this period (W & S Consultants 2004; Whitley et al. 2007). Whether this same demographic process holds for the southern San Joaquin Valley, including the study area, is yet to be determined.

The beginning of the *Late Horizon* is set variously at 1,500 and 800 YBP, with a growing archaeological consensus for the shorter chronology. Increasing evidence suggests the importance of the Middle-Late Horizons transition (AD 800 to 1200) in the understanding of south-central California prehistory. This corresponds to the so-called Medieval Climatic Anomaly, followed by the Little Ice Age, and this general period of climatic instability extended to about A.D. 1860. It included major droughts matched by intermittent “mega-floods,” and resulted in demographic disturbances across much of the west (Jones et al. 1999). It is believed to have resulted in major population decline and abandonments across south-central California, involving as much as 90% of the interior populations in some regions, including the Carrizo Plain (Whitley et al. 2007). It is not clear whether site abandonment was accompanied by a true reduction in population or an agglomeration of the same numbers of peoples into fewer but larger villages in more favorable locations. Population along the Santa Barbara coast appears to have spiked at about the same time that it collapsed on the Carrizo Plain (ibid). Along Buena Vista Lake, in Kern County, population appears to have been increasingly concentrated towards the later end of the Medieval Climatic Anomaly (Culleton 2006), and population intensification also appears to have occurred in the well-watered Tehachapi Mountains during this same period (W & S Consultants 2006).

What is then clear is that Middle Period villages and settlements were widely dispersed across the south-central California landscape, including in the Sierras and the Mojave Desert. Many of these sites are found at locations that lack existing or known historical fresh water sources. Late Horizon sites, in contrast, are typically concentrated in areas where fresh water was available during the historical period, if not currently.

One extensively studied site that shows evidence of intensive occupation during the Middle-Late Horizons transition (~1,500 – 500 YBP) is the Redtfeldt Mound (CA-KIN-66/H), located south of Hanford, near the north shore of ancient Tulare Lake. There, Siefkin (1999) reported on human burials and a host of artifacts and ecofacts excavated from a modest-sized mound. He found that both Middle Horizon and Middle-Late Horizons transition occupations were more intensive than Late Horizon occupations, which were sporadic and less intensive (Siefkin 1999:110-111).

The Late Horizon can then be understood as a period of recovery from a major demographic collapse. One result is the development of regional archaeological cultures as the precursors to ethnographic Native California; suggesting that ethnographic life-ways recorded by anthropologists extend roughly 800 years into the past.

The position of southern San Joaquin Valley prehistory relative to patterns seen in surrounding areas is still somewhat unknown. The presence of large lake systems in the valley bottoms appears to have mediated some of the desiccation seen elsewhere. But, as the reconstruction of Soda Lake in the nearby Carrizo Plain demonstrates (see Whitley et al. 2007) environmental perturbations had serious impacts on lake systems too. Identifying certain of the prehistoric demographic trends for the southern San Joaquin Valley, and determining how these trends (if present) correlate with those seen elsewhere, is a current important research objective.

2.4 HISTORICAL BACKGROUND

The Kings River region was first visited by the Spanish explorer Gabriel Moraga's 1806 expedition. He named the river *El Rio de los Santos Reyes* ("River of the Holy Kings"). The lengthy distance from this portion of the San Joaquin Valley to the missions and presidios along the Pacific Coast delayed permanent settlement of the region for many years, including during the Mexican period of control over the Californian region. In 1831, plans were developed by Mission San Juan Bautista, near modern Salinas, to create an *assistencia* (sub-mission) on the south bank of the Kings River, immediately south of Laton. This was to be called *Mision del Rio de los Santos Reyes*. These plans were apparently never implemented, however, and the *assistencia* was not constructed (<http://www.athanasius.com/camission/bautista.htm>; accessed 7/19/2019). The *Camino Viejo a Los Angeles* ("old road to Los Angeles") which extended from San Francisco to southern California, ran through the rancho, crossing the Kings River at the current location of Laton, probably providing the logic for the unrealized plans to build an *assistencia* at this particular spot.

In the 1840s, Mexican rancho owners along the Pacific Coast allowed their cattle to wander and graze in the San Joaquin Valley (JRP Historical Consulting 2009). But the Mexican government did not grant ranchos in the San Joaquin Valley until the early 1840s, and even then these did not result in significant permanent settlement. The *Laguna de Tache Rancho* was granted by Governor Pio Pico in 1846 to Manuel de Jesus Castro, a former captain in the Mexican army. The rancho extended for 26-miles down the north bank of the Kings River from modern Kingsburg to approximately Riverdale, and thus included the Laton area. It was sometimes called the "River Ranch." Castro's ownership of the Laguna de Tache Rancho grant was confirmed by the U.S. Public Land Commission in 1866, at which point it was sold to Jeremiah Clark, who built the "Grant House" about three miles west of Laton. Clark leased the rancho to Polley Heilbron & Company for 10 years, who used it for cattle ranching. Subsequently they purchased the rancho (Pacific Legacy 2006).

The discovery of gold in northern California in 1848 had already resulted in a dramatic increase of population, consisting in good part of fortune seekers and gold miners, who began to scour other parts of the state. After 1851, when gold was discovered in the Sierra Nevada Mountains in eastern Kern County, the population of the area grew rapidly. Some new immigrants began ranching in the San Joaquin Valley to supply the miners and mining towns. Ranchers grazed cattle and sheep, and farmers dry-farmed or used limited irrigation to grow grain crops, leading to the creation of small agricultural communities throughout the valley (JRP Historical Consulting 2009). The southern San Joaquin Valley then became significant as a center of food production for this new influx of people in California. The expansive unfenced and principally public foothill spaces were well suited for grazing both sheep and cattle (Boyd 1997). As the Sierra Nevada gold rush presented extensive financial opportunities, ranchers introduced new breeds of livestock, consisting of cattle, sheep and pig (Boyd 1997).

With the increase of ranching in the southern San Joaquin came the dramatic change in the landscape, as non-native grasses more beneficial for grazing and pasture replaced native flora (Preston 1981). After the passing of the Arkansas Act in 1850, efforts were made to reclaim small tracts of land in order to create more usable spaces for ranching. Eventually, as farming supplanted

ranching as a more profitable enterprise, large tracts of land began to be reclaimed for agricultural use, aided in part by the extension of the railroad in the 1870s (Pacific Legacy 2006).

The first settlement in the Laton CSD Wastewater Treatment Facility Project area was Kingston, located on the south side of the Kings River, roughly due south of Laton. Kingston is now a ghost town. It was founded by L.A. Whitmore, who established a ferry across the river in 1854. The Butterfield Overland Mail stopped at Kingston from 1858 to 1861, with a stage route from Visalia to Stockton after 1858, and a post office operating from 1859 to 1861 and 1866 to 1890. A permanent bridge across the river was constructed in 1873. The town subsequently declined and, by the 1890s, had been abandoned (California Historical Landmark #270, application form).

Following the passage of state wide 'No-Fence' laws in 1874, ranching practices began to decline, while farming expanded in the San Joaquin Valley in both large land holdings and smaller, subdivided properties. As the farming population grew, so did the demand for irrigation. Settlers began reclamation of swampland in 1866, and built small dams across the Kern River to divert water into the fields. By 1880, 86 different groups were taking water from the Kern River. Ten years later, 15 major canals provided water to thousands of acres in Kern County.

During the period of reclaiming unproductive land in the southern San Joaquin Valley, grants were given to individuals who had both the resources and the finances to undertake the operation alone. One small agricultural settlement, founded by Colonel Thomas Baker in 1861 after procuring one such grant, took advantage of reclaimed swampland along the Kern River. This settlement became the City of Bakersfield in 1869, and quickly became the center of activity in the southern San Joaquin Valley, and in the newly formed Kern County. Located on the main stage road through the San Joaquin Valley, the town became a primary market and transportation hub for stock and crops, as well as a popular stopping point for travelers on the Los Angeles and Stockton Road. The Southern Pacific Railroad reached the Bakersfield area in 1873, connecting it with important market towns elsewhere in the state, dramatically impacting both agriculture and oil production (Pacific Legacy 2006).

Three competing partnerships developed during this period which had a great impact on control of water, land reclamation and ultimately agricultural development in the San Joaquin Valley: Livermore and Chester, Haggin and Carr, and Miller and Lux, perhaps the most famous of the enterprises. Livermore and Chester were responsible, among other things, for developing the large Hollister plow (three feet wide by two feet deep), pulled by a 40-mule team, which was used for ditch digging. Haggin and Carr were largely responsible for reclaiming the beds of the Buena Vista and Kern lakes (Morgan 1914). Miller and Lux ultimately became one of the biggest private property holders in the country, controlling the rights to over 22,000 square miles. Miller and Lux's impact extended beyond Kern County, however. They recognized early-on that control of water would have important economic implications, and they played a major role in the water development of the state. They controlled, for example, over 100 miles of the San Joaquin River with the San Joaquin and Kings River Canal and Irrigation System. They were also embroiled for many years in litigation against Haggin and Carr over control of the water rights to the Kern River. Descendants of Henry Miller continue to play a major role in California water rights, with his great grandson, George Nickel, Jr., the first to develop the concept of water banking, thus creating a system to buy and sell water (Levine 2011).

In 1877, the region received its first Southern Pacific Railroad (SPRR) stop in what would become the town of Hanford. This town was named after James Madison Hanford, a rail executive, at what was originally a sheep camp. The rail-stop, with the SPRR tracks running east-west, quickly developed into a small community. A post office opened in 1887. Due to a series of fires and the resulting need for fire protection, Hanford was incorporated in 1891. That same year H.G. Lacey built the first electrical generating plant in Hanford, providing electrical lights for the growing town. It was made the county seat when Kings County was separated from Tulare County in 1893. The town's regional significance was emphasized a few years later, in 1897, when the ATSF rail company (now BNSF) routed a second rail line north-south through Hanford (<http://latoncalifornia.org/the-beginning.html>; accessed 7/17/2018). This line extends into Laton, forming the western boundary of the Project eastern study area.

The Polley Heilbron & Company, by the 1880s owners of the Laguna de Tache Rancho, constructed a number of canals to bring water onto their lands. These included the Grant Canal, sometimes called the Laguna de Tache Canal, which was built in 1873. The upper section of the canal originally had a bed width of about 30-ft and was 2 to 2.5-ft deep. Its source was Cole's Slough, a northward trending tributary of the Kings River. The Grant Canal paralleled the Kings River for much of its course (Grunsky 1898). As Grunsky noted:

"The lands of the Rancho Laguna de Tache have always been so well watered that the irrigation works which have been constructed may be regarded as serving primarily to establish a convenient control of the water rather than as works intended to increase the supply. To prevent excessive natural inundation it has been found necessary to erect embankments along the river, also to construct numerous drain ditches from low tracts into natural channels to facilitate drainage. The main irrigation canal supplies water to a large number of distributaries, frequently natural channels, and these in turn to small irrigating ditches, usually 200 to 450 yards apart. As the entire irrigation system lies within the limits of the rancho there has been less study of methods of controlling and distributing water than would have been the case if a large number of consumers had to be supplied, and water measurement has been entirely out of the question" (ibid:61).

The Laguna de Tache Rancho lands were purchased from the Polley Heilbron & Company by E.B. Perrin and his brother in 1891. They transferred the riparian rights to the Fresno Canal and Irrigation Company in 1893. The Perrins defaulted on their loan, however, and an English syndicate of insurance companies purchased the property with the intentions of sub-dividing. This syndicate was headed by Charles A. Laton and L.A. Nares, the source of the names for these two local communities. The community of Laton developed shortly thereafter, likewise with an impetus from the establishment of a rail depot. By 1904, it had a population of approximately 400 people (<http://latoncalifornia.org/the-beginning.html>; accessed 7/17/2018).

Numerous small irrigation districts developed in the Fresno and Kings counties region during the latter decades of the 19th century as a result of the Wright Act of 1887. These suffered from competition, confusion over water rights, and droughts in the 1890s, which left many districts not viable. As documented by Barnes (1920; cf. Shallat 1978), a long history of contention and litigation developed over the water rights to the Cole Slough, as it was the water source for the

Emigrant, Liberty and Grant/Laguna de Tache Canals (Grunsky 1898). These conflicts were effectively settled circa 1920 – 1921, resulting in the creation of a smaller number of irrigation districts, many of which still exist today, including the Laguna, Riverdale, Fresno and Foothill districts (Shallat 1978). The Grant/Laguna de Tache Canal is now part of the Laguna Irrigation, formed in 1921.

2.5 RESEARCH DESIGN

2.5.1 Pre-Contact Archaeology

Previous research and the nature of the pre-contact archaeological record suggest two significant NRHP themes, both of which fall under the general Pre-Contact Archaeology area of significance. These are the Expansion of Pre-Contact Populations and Their Adaptation to New Environments; and Adaptation to Changing Environmental Conditions.

The Expansion of Pre-Contact Populations and Their Adaptation to New Environments theme primarily concerns the Middle Horizon/Holocene Maximum. Its period of significance runs from about 4,000 to 1,500 YBP. It involves a period during which the prehistoric population appears to have expanded into a variety of new regions, developing new adaptive strategies in the process.

The Adaptation to Changing Environmental Conditions theme is partly related to the Holocene Maximum, but especially to the Medieval Climatic Anomaly. The period of significance for this theme, accordingly, extends from about 4,000 to 800 YBP. This theme involves the apparent collapse of many inland populations, presumably with population movements to better environments such as the coast. It is not yet known whether the southern San Joaquin Valley, with its system of lakes, sloughs and swamps, experienced population decline or, more likely, population increase due to the relatively favorable conditions of this region during this period of environmental stress.

The range of site types that are present in this region include:

- Villages, primarily located on or near permanent water sources, occupied by large groups during the winter aggregation season;
- Seasonal camps, again typically located at water sources, occupied during other parts of the year tied to locally and seasonally available food sources;
- Special activity areas, especially plant processing locations containing bedrock mortars (BRMs), commonly (though not exclusively) near existing oak woodlands, and invariably at bedrock outcrops or exposed boulders;
- Stone quarries and tool workshops, occurring in two general contexts: at or below naturally occurring chert exposures on the eastern front of the Temblor Range; and at quartzite cobble exposures, often on hills or ridges;
- Ritual sites, most commonly pictographs (rock art) found at rockshelters or large exposed boulders, and cemeteries, both commonly associated with villages; and
- A variety of small lithic scatters (low density surface scatters of stone tools).

The first requisites in any research design are the definition of site age/chronology and site function. The ability to determine either of these basic kinds of information may vary between survey and test excavation projects, and due to the nature of the sites themselves. BRM sites without associated artifacts, for example, may not be datable beyond the assumption that they post-date the Early Horizon and are thus less than roughly 4,000 years old.

A second fundamental issue involves the place of site in the settlement system, especially with respect to water sources. Because the locations of the water sources have sometimes changed over time, villages and camps are not exclusively associated with existing (or known historical) water sources (W&S Consultants 2006). The size and locations of the region's lakes, sloughs and delta channels, to cite the most obvious example, changed significantly during the last 12,000 years due to major paleoclimatic shifts. This altered the area's hydrology and thus prehistoric settlement patterns. The western shoreline of Tulare Lake was relatively stable, because it abutted the Kettleman Hills. But the northern, southern and eastern shorelines comprised the near-flat valley floor. Relatively minor fluctuations up or down in the lake level resulted in very significant changes in the areal expression of the lake on these three sides, and therefore the locations of villages and camps. Although perhaps not as systematic, similar changes occurred with respect to stream channels and sloughs, and potential site locations associated with them. This circumstance has implications for predicting site locations and archaeological sensitivity. Site sensitivity is then hardest to predict in the open valley floor, where changes in stream courses and lake levels occurred on numerous occasions.

Nonetheless, the position of southern San Joaquin Valley prehistory relative to the changing settlement and demographic patterns seen in surrounding areas is still somewhat unknown (cf. Siefkin 1999), including to the two NRHP themes identified above. The presence of large lake systems in the valley bottoms can be expected to have mediated some of the effects of desiccation seen elsewhere. But, as the reconstruction of Soda Lake in the nearby Carrizo Plain demonstrates (see Whitley et al. 2007), environmental perturbations had serious impacts on lake systems too. Identifying certain of the prehistoric demographic trends for the southern San Joaquin Valley, and determining how these trends (if present) correlate with those seen elsewhere, is another primary regional research objective.

Archaeological sites would primarily be evaluated for NRHP eligibility under Criterion D, research potential.

2.5.2 Historical Archaeology: Native American

Less research has been conducted on the regional historical archaeological record, both Native American and Euro-American. For Native American historical sites, the ethnographic and ethnohistoric periods in the southern San Joaquin Valley extended from first Euro-American contact, in AD 1772, to circa 1900, when tribal populations were first consolidated on reservations. The major significant historic NRHP themes during this period of significance involve the related topics of Historic-Aboriginal Archaeology, and Native American Ethnic Heritage. More specifically, these concern the Adaptation of the Indigenous Population to Euro-American Encroachment and Settlement, and their Acculturation to Western Society. These processes included the impact of missionization on the San Joaquin Valley (circa 1800 to about 1845); the

introduction of the horse and the development of a San Joaquin Valley “horse culture,” including raiding onto the coast and Los Angeles Basin (after about 1810); the use of the region as a refuge for mission neophyte escapees (after 1820); responses to epidemics from introduced diseases (especially in the 1830s); armed resistance to Euro-American encroachment (in the 1840s and early 1850s); the origins of the reservation system and the development of new tribal organizations and ethnic identities; and, ultimately, the adoption of the Euro-American society’s economic system and subsistence practices, and acculturation into that society.

Site types that have been identified in the region dating to the ethnographic/ethnohistoric period of significance primarily include villages and habitations, some of which contain cemeteries and rock art (including pictographs and cupules). Dispersed farmsteads, dating specifically from the reservation period or post-1853, would also be expected. The different social processes associated with this historical theme may be manifest in the material cultural record in terms of changing settlement patterns and village organization (from traditional nucleated villages to single family dispersed farmsteads); the breakdown of traditional trading networks with their replacement by new economic relationships; changing subsistence practices, especially the introduction of agriculture initially via escaped mission neophytes; the use of Euro-American artifacts and materials rather than traditional tools and materials; and, possibly, changing mortuary practices.

Inasmuch as culture change is a primary intellectual interest in archaeology, ethnographic villages and habitations may be NRHP eligible under Criterion D, research potential. Rock art sites, especially pictographs, may be eligible under Criterion C as examples of artistic mastery. They may also be eligible under Criterion A, association with events contributing to broad patterns of history. Ethnographic sites, further, may be NRHP eligible as Traditional Cultural Properties due to potential continued connections to tribal descendants, and their resulting importance in traditional practices and beliefs, including their significance for historical memory, tribal- and self-identity formation, and tribal education.

For Criteria A, C and D, eligibility requires site integrity (including the ability to convey historical association for Criterion A). These may include intact archaeological deposits for Criterion D, as well as setting and feel for Criteria C and A. Historical properties may lack physical integrity, as normally understood in heritage management, but still retain their significance to Native American tribes as Traditional Cultural Properties if they retain their tribal associations and uses.

2.5.3 Historical Archaeology: Euro-American

Approaches to historical Euro-American archaeological research relevant to the region have been summarized by Caltrans (1999, 2000, 2007, 2008). These concern the general topics of historical landscapes, agriculture and farming, irrigation (water conveyance systems), and mining.

For archaeological sites, Caltrans has identified an evaluation matrix aiding determinations of eligibility emphasizing potential eligibility under NRHP Criterion D, research potential. The identified research issues include site structure and land-use (lay-out, land use, feature function); economics (self-sufficiency, consumer behavior, wealth indicators); technology and science (innovations, methods); ethnicity and cultural diversity (religion, race); household composition and lifeways (gender, children); and labor relations. Principles useful for determining the research

potential of an individual site or feature are conceptualized in terms of the mnemonic AIMS-R, as follows:

1. *Association* refers to the ability to link an assemblage of artifacts, ecofacts, and other cultural remains with an individual household, an ethnic or socioeconomic group, or a specific activity or property use.
2. *Integrity* addresses the physical condition of the deposit, referring to the intact nature of the archaeological remains. In order for a feature to be most useful, it should be in much the same state as when it was deposited. However, even disturbed deposits can yield important information (e.g., a tightly dated deposit with an unequivocal association).
3. *Materials* refers to the number and variety of artifacts present. Large assemblages provide more secure interpretations as there are more datable items to determine when the deposit was made, and the collection will be more representative of the household, or activity. Likewise, the interpretive potential of a deposit is generally increased with the diversity of its contents, although the lack of diversity in certain assemblages also may signal important behavioral or consumer patterns.
4. *Stratigraphy* refers to the vertically or horizontally discrete depositional units that are distinguishable. Remains from an archaeological feature with a complex stratigraphic sequence representative of several events over time can have the added advantage of providing an independent chronological check on artifact diagnosis and the interpretation of the sequence of environmental or sociocultural events.
5. *Rarity* refers to remains linked to household types or activities that are uncommon. Because they are scarce, they may have importance even in cases where they otherwise fail to meet other thresholds of importance (Caltrans 2007:209).

For agricultural sites, Caltrans (2007) has identified six themes to guide research: Site Structure and Land Use Pattern; Economic Strategies; Ethnicity and Cultural Adaptation; Agricultural Technology and Science; Household Composition and Lifeways; and Labor History. Expected site types would include farm and ranch homesteads and facilities, line camps, and refuse dumps. In general terms, historical Euro-American archaeological sites would be evaluated for NRHP eligibility under Criterion D, research potential. However, they also potentially could be eligible under Criteria A and B for their associated values with major historical trends or individuals. Historical landscapes might also be considered.

Historical structures, most likely to be pertinent to the current study area, in contrast are typically evaluated for NRHP eligibility under Criteria A and/or B, for their associated values with major historical trends or individuals, and C for potential design or engineering importance. Water conveyance systems comprise a particular sub-set of historical structures that warrant discussion in light of the known presence of two such resources within the Project APE.

2.5.4 Significant Themes

Water conveyance systems within the Project APE can be evaluated in terms of two NRHP themes, as follows.

Theme 1: Development of Irrigated Agriculture in the San Joaquin Valley, 1852-1969

As identified by Caltrans in the *Water Conveyance Systems in California Historic Context Development and Evaluation Procedures*, the “Development of Irrigated Agriculture” is a historically significant theme or event in the history of California and the Central Valley region. In the years following California’s statehood and the gold rush, increasing population created an growing market for agricultural products. The total irrigated acreage in the state grew from 60,000 acres in 1860 to nearly 400,000 acres by 1880, an increase of more than 650 percent, and the San Joaquin Valley contained the highest percentage of that land (approximately 47 percent) (Caltrans 2000). Private water companies, land colonies, mutual water companies, and irrigation districts were established in the mid- to late nineteenth century to build irrigation systems to further develop the state’s agriculture industry. Irrigation districts became the most influential of these organizations, especially after state legislation—the Wright Act of 1887—causing irrigation districts to grow in number, power, as well as the actual amount of irrigated land throughout the state. Forty-nine irrigation districts were organized between 1887 and 1896, most of them located between Stockton and Bakersfield. However, by the late 1920s, only seven of the original districts were still in existence, among them the Modesto, Turlock, and Tulare irrigation districts (Caltrans 2000). Under the impetus of increased demand during World War I, agricultural production reached a new peak in 1920. Companies like Pacific Gas & Electric and San Joaquin Valley Light and Power helped finance large irrigation reservoirs to feed district canals in return for the power generated. By 1930, there were 94 active districts in California, and the land watered by these agencies mushroomed to 1.6 million acres (Caltrans 2000). Irrigation districts provided more than 90 percent of the surface water used for irrigation in the San Joaquin Valley before the Central Valley Project came on line in the 1940s (Caltrans 2000). Most were located in the San Joaquin Valley, with the most successful in Modesto, Turlock, Merced, and Fresno.

The period of significance for this theme begins with the earliest developments of irrigated agriculture in the San Joaquin Valley, with the construction of the earliest earthen ditches in Visalia in 1852. Irrigated agriculture continues to be an important industry and influence in the Valley. The period of significance ends in 1969 following recommended guidance for closing a period of significance 50 years ago when activities continued to have importance, but no more specific date can be defined to end the historic period, and there is no justification for exceptional significance to extend the period of significance to an end date within the last 50 years (National Register of Historic Places 1997).

Associated Property Types:

Water Conveyance Systems

Following the framework established by Caltrans in *Water Conveyance Systems in California Historic Context Development and Evaluation Procedures*, the water conveyance system is the

property type that has the potential to reflect this theme and period. Components and features of water conveyance systems include diversion structures, conduits, flow control devices, cleansing devices, and associated resources and settings. Water Conveyance Systems that are associated with Development of Irrigated Agriculture in the San Joaquin Valley, 1852-1968 will be eligible under NRHP Criterion A/CRHR Criterion 1 for their association with this significant theme if:

- the association with the theme is important--simply because a water conveyance existed during the period of significance is not enough for that system to be eligible;
- the resource retains high overall integrity because of the high number of comparable examples. The property should retain most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association.
- Due to the nature of this type of resource, repairs and modifications are acceptable but not if those modifications substantially modified the resource.

Water Conveyance Systems that are associated with Development of Irrigated Agriculture in the San Joaquin Valley, 1852-1968 will be eligible under NRHP Criterion B/CRHR Criterion 2 for their association with this significant theme if they are:

- associated with an important person's productive life *and* they are the property that is most closely associated with that person;
- the resource retains high overall integrity because of the high number of comparable examples. The property should retain most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association.
- Due to the nature of this type of resource, repairs and modifications are acceptable but not if those modifications substantially modified the resource.

Water conveyance systems will rarely be found eligible under Criterion B. In California notable names for which there might be associations with water planning, construction, or engineering include: Anthony Chabot, George Chaffey, Frederick Eaton, William Mulholland, George Maxwell, Robert Marshall, Elwood Mead and C. E. Grunsky (Caltrans 2000).

Theme 2: Technological Innovation in Irrigated Agriculture in California, 1852-1964

Caltrans clearly defines the historic context for this theme in the "Legacy of Irrigation Canals" section of the context, while ASM has defined a period of significance based on the Caltrans context (Caltrans 2000). The following is a direct excerpt from the context:

"The earliest irrigation water conveyances in California were roughly made, earthen ditches to divert water. Techniques used to construct irrigation canals have varied widely during the various periods of California's history, from the relatively short, hand-dug, early masonry and tile ditches, to horse-scraped and hand-dug earthen irrigation ditches, to the large concrete-lined, machine-formed irrigation canals of the middle decades of the twentieth century. Evidence of these changes in scale, methods of construction, and knowledge of engineering are reflected in the remaining physical resources found on the landscape today. Substantial regional variation exists with respect to the adoption and dissemination of the new technologies, such as where and when concrete replaced wood in the engineering works of major irrigation canals. These regional differences can be

explained in part by cultural traditions with respect to water management, ownership of water rights, and environmental factors, but economics, politics, and the formation of particular types of irrigation institutions also played a significant role.

“Older canals were often subject to substantial change over time. A common change was to expand the system in order to serve more acreage. Unless pumps are used, irrigation canals rely on gravity to move water, and they can provide service only to land lying below the canal’s water level. As irrigated acreage expanded, water companies frequently consolidated smaller ditch systems, moved the point of diversion upstream, and built a high-line canal to service new acreage. In this manner, pioneer canals were often absorbed into larger systems, frequently by irrigation districts, to pull in more potentially irrigable lands. Segments of earlier irrigation systems might remain largely intact within the larger framework of a new irrigation system, or the changes could be such that the old separate irrigation system would become, in essence, a typical component of a new 1920s irrigation district canal.

“Another important factor is that water is notoriously difficult to control; it can be, and frequently is, an engine of destruction. Flood waters, for example, repeatedly overwhelmed the flimsy wooden control structures built on nineteenth and early-twentieth century irrigation systems in the San Joaquin Valley. Canals required periodic maintenance and were also often altered as a result of improvements designed to counteract the normal erosion that occurs from water moving through earth-lined canals. Improvements to stabilize canals ranged from realigning segments of the channel, to lining ditches or putting them in pipe, to replacement of checks, drops, culverts, or other regulation structures. These improvements were sometimes carried out system-wide, sometimes on a piecemeal basis. In light of the proclivity for change and the wide diversity of canal materials and modes of construction, adequate documentary research is essential to understand the evolution of an important irrigation canal and to assess its integrity” (Caltrans 2000).

The period of significance for this theme begins with the earliest developments of irrigated agriculture in the San Joaquin Valley, with the construction of the earliest earthen ditches in Visalia in 1852. Technological innovations in agricultural irrigation are ongoing, but the period of significance ends in 1968 following recommended guidance for closing a period of significance 50 years ago when activities continued to have importance, but no more specific date can be defined to end the historic period, and there is no justification for exceptional significance to extend the period of significance to an end date within the last 50 years (National Register of Historic Places 1997).

Associated Property Types:

Water Conveyance Systems

Following the framework established by Caltrans in *Water Conveyance Systems in California Historic Context Development and Evaluation Procedures*, the water conveyance system is the property type that has the potential to reflect this theme and period. Components and features of water conveyance systems include diversion structures, conduits, flow control devices, cleansing

devices, and associated resources and settings. Water Conveyance Systems that are associated with Technological Innovation in Irrigated Agriculture in California, 1852-1968 will be eligible under NRHP Criterion C/CRHR Criterion 3 for their association with this significant theme if they are/have:

- unique values;
- the best or good example of the property type as one that possess distinctive characteristics of the type and through those characteristics clearly illustrates at least one of the following;
 - the pattern of features common to a particular class of resources
 - the individuality or variation of features that occurs within the class;
 - the evolution of that class; or
 - the transition between classes of resources
- the earliest, best preserved, largest, or sole surviving example of particular types of water conveyance systems;
- a design innovation of evolutionary trends in engineering
- designed by a figure of acknowledged greatness in the field or by someone unknown whose workmanship is distinguishable from others by its style and quality *and* be a good example of that designer's work;
- the resource retains high overall integrity because of the high number of comparable examples. The property should retain most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association.

A large water conveyance system with multiple components will often be evaluated as a district rather than as a single property. An eligible historic district must possess a significant concentration or linkage of resources that are united historically or aesthetically by plan or physical development. It should be a significant and distinguishable entity, although its components need not possess individual distinction (Caltrans 2000).

3. ARCHIVAL RECORDS SEARCH

In order to determine whether the study areas had been previously surveyed for cultural resources, and/or whether any such resources were known to exist on either of them, an archival records search was conducted by the staff of the Southern San Joaquin Valley Information Center (IC) on 13 May 2019. The records search was completed to determine: (i) if prehistoric or historical archaeological sites had previously been recorded within the Project study area; (ii) if the study area had been systematically surveyed by archaeologists prior to the initiation of this field study; and/or (iii) whether the region of the field project was known to contain archaeological sites and to thereby be archaeologically sensitive. Records examined included archaeological site files and maps, the NRHP, Historic Property Data File, California Inventory of Historic Resources, and the California Points of Historic Interest.

According to the IC records search (details provided in Confidential Appendix A), the Project APE had been partially surveyed previously, with the southern portions of both the west and east study areas covered. The northern portions of both study areas, however, had not been previously surveyed. Two historical cultural resources had been recorded within the APE: P-10-6641, the Grant/Laguna de Tache Canal; and P-16-120, the ATSF/BNSF rail line. In addition, the Kingston – Laton Park, part of the western study area, contains the plaque for State Historical Landmark (SHL) #270, for the town of Kingston. The location of this former town was on the south side of the Kings River, in Kings County, and is not within the APE. (Note that, following California Office of Historic Preservation guidelines, SHLs lower than #770 are not automatically included in the CRHR because qualification standards for the early SHL entries did not meet current criteria. SHL #270 is not listed on the CRHR but, regardless, is outside of the APE; see http://ohp.parks.ca.gov/?page_id=21748; accessed on 7/19/2019).

Six surveys had been completed within a 0.5-mi radius of the Project APE, primarily linear surveys and spot checks of small locations. Three additional historical resources had been recorded within this radius: the putative planned location of P-16-25, *Mision del Rio de los Santos Reyes* (although no archaeological evidence of the mission was found when the location was recorded in 1961); P-10-4419, the Laton Library; and P-10-4420, the Laguna de Tache Rancho office.

A search of the Native American Heritage Commission (NAHC) Sacred Lands Files was also obtained on 11 May 2018. According to the NAHC records, no sacred sites or tribal cultural resources are known in or near the project area. Outreach letters were then sent to the tribal contact list provided by the NAHC and follow up calls were made. The Santa Rosa Rancheria Tachi-Yokut Tribe responded by email and requested that a tribal monitor be present during Project grading.

Historical sources, especially period USGS Irrigation Papers and other monographs, were also consulted in order to clarify the history of water conveyance systems in the immediate Project area.

Based on the records search results, the Project APE was known to have a segment of one historical cultural resource but, otherwise, appeared to have low archaeological and tribal cultural resources sensitivity.

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4. METHODS AND RESULTS

4.1 FIELD METHODS

An intensive Class III inventor/Phase I survey of the Laton CSD Wastewater Treatment Facility Project study area was conducted by ASM Associate Archaeologist Robert Azpitarte, B.A., with assistance in the field from ASM Assistant Archaeologist Daniela Medel, B.A. The survey was completed on 6 July 2019. The field methods employed included intensive pedestrian examination of the ground surface for evidence of archaeological sites in the form of artifacts, surface features (such as bedrock mortars, historical mining equipment), and archaeological indicators (e.g., organically enriched midden soil, burnt animal bone); the identification and location of any discovered sites, should they be present; tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation Instructions for Recording Historic Resources and the BLM 8100 Manual, using DPR 523 forms.

The entirety of the approximately 116.4-ac Project APE was intensively surveyed. Visibility varied from excellent, in recently cleared or graded areas, to poor, where lawn cover was present. Survey transect spacing was reduced in areas with groundcover to ensure that intensive coverage occurred over the entire Project APE; careful attention was paid to verges and exposed areas in locations covered with grass, which included the high school playing fields and portions of Kingston – Laton Park.

4.2 SURVEY RESULTS

The Project APE includes the existing Laton CSD Wastewater Treatment Facility and undeveloped lands, primarily park open-space and sports playing fields. The existing treatment facility, the southern portion of the eastern study area, includes an area of ponds and a headquarters/equipment building, as well as sheds/outbuilding (Figure 2). Much if not most of this area has been disturbed by existing and currently unused water treatment basins, as well as by graded dirt roads and other improvements. Three small concrete pads were noted in this area, presumably representing foundations for previously demolished outbuildings. A proposed solar field is located in an undeveloped area (approximately 8-acres) just east of the existing ponds (Figure 3). This area has oaks and abuts the ATSF/BNSF rail grade on the west (P-10-000120). An elevated dirt road separates the ponds area and solar field area. The eastern study area extends north across the Grant/Laguna de Tache Canal to include the existing Laton High School sports playing fields (Figure 4). This area is largely grass-covered but also includes paved tennis courts and various outbuildings/structures.

The proposed “School Farm” area, the northern portion of the western study area, consists of a fallow orchard bordered by the Grant/Laguna de Tache Canal on the south, walnut orchards on the west, a baseball field on the east, and E. Mt. Whitney Avenue on the north (Figure 5). This study area also contains both live and dead trees. The Kingston – Laton Park is the southern portion of the western study area (Figure 6). Portions of this park were also covered by grass. A paved road



Figure 2. Wastewater Treatment Facility area, looking northwest towards facility headquarters.



Figure 3. Potential solar field area, looking southeast.



Figure 4. High school playing field, looking southeast.



Figure 5. “School Farm” portion of western study area, looking southeast.



Figure 6. Western end of Kingston – Laton Park, looking southeast.

and parking lot are present in the park, along with four small buildings (restroom and outbuildings). A dirt road also encircles the park along its north and western sides. Air photo imagery (on Google Earth), extending back to 1994, indicates that the access road and parking lots were paved circa 2005. Images taken at different seasons also indicate that much of the park is crisscrossed with vehicle tracks. In some seasons, the Kings River is shown as dry and filled with sand.

A pipeline will connect the eastern and western study areas. It will route through an underpass below the BNSF rail grade.

Two previously recorded cultural resources were re-identified within the APE and are described below. No additional culture resources were observed during the survey within the Project APE.

4.2.1 Previously Recorded Resources

P-10-6641, Grant/Laguna de Tache Canal

As noted above, the Polley Heilbron & Company constructed a number of canals to bring water onto the Laguna de Tache Rancho lands. These included the Grant Canal, sometimes called the Laguna de Tache Canal, which was built in 1873. The upper section of the canal originally had a bed width of about 30-ft and was 2 to 2.5-ft deep. Its source was Cole's Slough, a northward trending tributary of the Kings River. The Grant Canal paralleled the Kings River for much of its course (Grunsky 1989). As Grunsky noted:

“The lands of the Rancho Laguna de Tache have always been so well watered that the irrigation works which have been constructed may be regarded as serving primarily to establish a convenient control of the water rather than as works intended to increase the supply. To prevent excessive natural inundation it has been found necessary to erect embankments along the river, also to construct numerous drain ditches from low tracts into natural channels to facilitate drainage. The main irrigation canal supplies water to a large number of distributaries, frequently natural channels, and these in turn to small irrigating ditches, usually 200 to 450 yards apart. As the entire irrigation system lies within the limits of the rancho there has been less study of methods of controlling and distributing water than would have been the case if a large number of consumers had to be supplied, and water measurement has been entirely out of the question” (ibid:61).

The Laguna de Tache Rancho lands were purchased from the Polley Heilbron & Company by E.B. Perrin and his brother in 1891. They transferred the riparian rights to the Fresno Canal and Irrigation Company in 1893. The Perrins defaulted on their loan, however, and an English syndicate of insurance companies purchased the property with the intentions of sub-dividing. This syndicate was headed by Charles A. Laton and L.A. Nares, the source of the names for these communities. Following litigation over water rights, the Grant Canal became a component of the Laguna Irrigation District in 1921.

This historical resource was recorded and evaluated for significance by Caltrans in 2003 (site record, CA-10-6641). Caltrans determined that the laterals for this canal system had been realigned multiple times, were piped under SR 43 and therefore lacked integrity. Caltrans concluded that the laterals were not associated with events (Criterion A/1) or persons (Criterion B/2) important to history, nor did they represent unique design or style characteristics associated with a master craftsman (Criterion C/3). They concluded that:

“[T]hose portions of the laterals within the study area are not eligible for listing in the National Register of Historic Places, nor would they be contributors to the larger system if it were to be evaluated. They would not contribute to an eligible historic district or cultural landscape if such properties were determined to exist. Finally, those portions of the laterals (canals) within the project area are not historic resources for the purposes of CEQA” (site record, P-10-6641).

The two segments of the Grant Canal within the Project APE were identified and documented (Confidential Appendix B). The canal forms the separation between the southern and northern portions of both the east and west study areas. The canal segments within the Project APE currently consist of two parallel ditches, each approximately 20-ft wide, separated by a graded, flat berm, also approximately 20-ft wide. Narrower berms are present along the north and south sides of the dual-ditch system, sitting at about 4-ft above natural grade (Figure 7). All berms and canal sides have been carefully maintained and groomed, giving them the appearance of a recent/modern construction.

Examination of historical USGS topographical quadrangles indicates that, in 1927, dual (roughly) parallel canals were present in the eastern Project study area but a single canal was present in the western study area. The dual segment in the eastern study area included a southern channel that was regular and effectively straight, and that connected to the channel in the western study area.

The northern of these two channels, however, was irregular in width and route, and it appears to have been a natural channel (probably resulting from a freshet) that connected to the original Grant Canal between the east and west Project study areas. By 1953, the two segments within the Project APE both included dual, parallel ditches. These were both regular in width and parallel, and thus represent an alteration of the first northern channel, and an extension of it to the west. The construction and design of this canal was thus changed sometime before the mid-century from its original alignment.



Figure 7. The Grant/Laguna de Tache Canal, north of the existing wastewater treatment facility, looking west.

P-16-120, ATSF/BNSF RAIL LINE

The former ATSF (now BNSF) north – south rail line forms the western boundary of the eastern study area. A pipeline connecting the eastern and western study areas will follow an existing dirt road and then run through an underpass below the rail line (Figure 8). As noted above, the ATSF north-south line was constructed in 1897, and it has been in continuous use ever since. This resource was first recorded by CRM Tech in 2001 and was recommended as not NRHP/CRHR eligible due to a loss of integrity and historical characteristics.



Figure 8. Underpass, BNSF rail grade, adjacent to the Grant Canal, looking east.

The segment of this resource recorded for the Project consists of the steel rail bridge over the Kings River. The abutment for the bridge on the north side of the river has been elevated and set-back to accommodate a dirt road crossing underneath and an earlier bridge abutment alongside the river. The existing abutment is concrete. The bridge consists of steel girders supporting the deck (visible in the undercrossing) and rivetted steel sides. Two concrete piers within the river support the span. The deck of the bridge is covered with gravel ballast, holding a single rail line and ties. The bridge and abutment are currently covered with spray painted graffiti. The age of this bridge is unknown although the rivetted construction suggests that it is World War II era or earlier.

An earlier (now abandoned) low concrete abutment is located immediately alongside the river in the underpass (Figure 9). Ten circular holes, all of equal size, are present on top of this roughly rectangular abutment. These would have originally held wooden supporting posts. The age of this earlier abutment likewise is unknown. Reinforced concrete was not commonly used in California, however, until after the turn of the century, due to the scarcity of Portland cement (Wermiel 2009). This would suggest that this earlier abutment may represent the replacement of an original, all-wooden bridge (dating circa 1897, when the rail line was constructed), with the existing steel bridge then the third manifestation of this river crossing.



Figure 9. Abandoned bridge abutment adjacent to Kings River, looking west.

5. SUMMARY AND RECOMMENDATIONS

An intensive Class III cultural resources inventory/Phase I survey was conducted for the Laton CSD Wastewater Treatment Facility Project, Fresno County, California. A records search was conducted at the Southern San Joaquin Valley Archaeological Information Center, California State University, Bakersfield. This indicated that the study area had been partially surveyed and that two historic cultural resources were known to exist within it, segments of the Grant/Laguna de Tache Canal and the ATSF rail line. A records search of the NAHC Sacred Lands Files was also conducted and contacts with designated tribal organizations were also completed. No tribal cultural resources or sacred sites have been identified within the study area. The Santa Rosa Rancheria Tachi-Yokut Tribe responded by email, however, and requested that a tribal monitor be present during Project grading.

The Phase I survey fieldwork was conducted in July 2019, with parallel transects spaced at 15-meter intervals walked across the two study areas that, jointly, represent a 116.4-ac Project APE. No new cultural resources of any kind were identified within the Project APE. Two segments of the Grant/Laguna de Tache Canal and one segment of the ATSF rail line were within the APE. These were recorded and evaluated, as discussed below.

5.1 P-10-6641, Segments of the Grant/Laguna de Tache Canal

The two segments of the Grant/Laguna de Tache Canal within the Project APE are recommended as not eligible for the NRHP or CRHR either individually or as contributors to a potential historic district under all four NRHP/CRHR criteria. Following the 2003 Caltrans evaluation and eligibility determination, no historic district exists to which this resource might contribute. Under consideration of individual eligibility, the canal segments recorded have the potential for association with events that have made a significant contribution to the broad patterns of history, specifically the Development of Irrigated Agriculture in the San Joaquin Valley, 1852-1969. This theme begins with the earliest developments of irrigated agriculture in the region and extends up to 50 years ago. Based on this circumstance, these segments would be eligible under NRHP/CRHR Criterion A/1, association with a significant historical event. The dual ditch system, however, represents a change in design and alignment since the canal was originally constructed, and it is part of a series of realignments and changes over time due to modern use, maintenance and needs. The Grant/Laguna de Tache Canal therefore lacks integrity of design and workmanship. Based on the creation of a dual ditch system and its various realignments, it also lacks integrity of location. Due to the development of the community of Laton, the construction of modern highways and roads (including bridge crossings at Fowler Avenue and the Old Kingston Grade, adjacent to the Project APE), and the construction of a wastewater treatment facility on its southern bank, it lacks integrity of setting and association. Based on these considerations, the Grant/Laguna de Tache Canal is recommended as not NRHP/CRHR eligible under Criterion A/1.

No historically significant individuals were identified that were associated with the segments within the Project APE. The recorded segments within the Project APE are recommended not eligible under NRHP/CRHR Criteria B/2.

The recorded segments of the Grant/Laguna de Tache Canal within the APE have the potential for eligibility under the theme of Technological Innovation in Irrigated Agriculture in California, 1852-1968. This theme begins with the earliest technological innovations in agricultural irrigation in California and extends up to a period of 50 years ago. However, the recorded segment does not appear to have unique values, is not a good example of the property type, is not the earliest, best preserved, largest, or sole surviving example of the water conveyance property type; nor is it a design innovation of evolutionary trends in engineering. Furthermore, the segment has no known association with a figure of acknowledged greatness in the design field or by someone unknown whose workmanship is distinguishable from others by its style and quality. The recorded segment within the Project APE therefore is recommended not eligible under NRHP/CRHR Criteria C/3.

Finally, the recorded segments within the Project APE is not recommended eligible under NRHP/CRHR Criteria D/4. It is a common property type that does not have the potential to provide information about history or prehistory that is not available through historical research.

5.2 P-16-120, ATSF/BNSF Rail Line

The pipeline portion of the Project will run through an undercrossing below this rail line. As noted above, this resource was first recorded in 2001 and was recommended not NRHP/CRHR eligible due to lack of integrity, partly resulting from regular maintenance of this line. The recorded segment could be eligible under Criterion A/1, association with an important event; specifically, the expansion of the railroad system through the western U.S. This segment lacks integrity of original materials and design, however, given the fact that the bridge represents the second or third constructed crossing of the Kings River at this location, and it is not recommended as eligible under Criterion A/1.

No historically significant individuals were identified that were associated with the segment within the Project APE. The recorded segment within the Project APE is recommended not eligible under NRHP/CRHR Criteria B/2.

The recorded segment, furthermore, does not appear to have unique values, is not a good example of the property type; is not the earliest, best preserved, largest, or sole surviving example of this property type; nor is it a design innovation of evolutionary trends in engineering. Furthermore, the segment has no known association with a figure of acknowledged greatness in the design field or by someone unknown whose workmanship is distinguishable from others by its style and quality. The recorded segment within the Project APE therefore is recommended not eligible under NRHP/CRHR Criteria C/3.

Finally, the recorded segments within the Project APE is not recommended eligible under NRHP/CRHR Criteria D/4. It is a common property type that does not have the potential to provide information about history or prehistory that is not available through historical research.

5.3 Recommendations

An intensive Class III cultural resources inventory/Phase I survey demonstrated that the Laton CSD Wastewater Treatment Facility Project APE lacks significant archaeological and historical

resources. The proposed project therefore does not have the potential to result in adverse impacts or effects to significant historical resources or historic properties. In the unlikely event that cultural resources are encountered during project construction or use, however, it is recommended that an archaeologist be contacted to assess the discovery. No further archaeological work is recommended at this time. Following the request by the Santa Rosa Rancheria – Tachi Yokuts Tribe, however, it is recommended that a tribal monitor be present during grading.

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CONFIDENTIAL APPENDICES

APPENDIX E

SOILS BORINGS

WASTEWATER TREATMENT AND DISPOSAL

FACILITIES IMPROVEMENT PROJECT

LATON COMMUNITY SERVICES DISTRICT

TECHNICAL PROVISIONS

SECTION 5

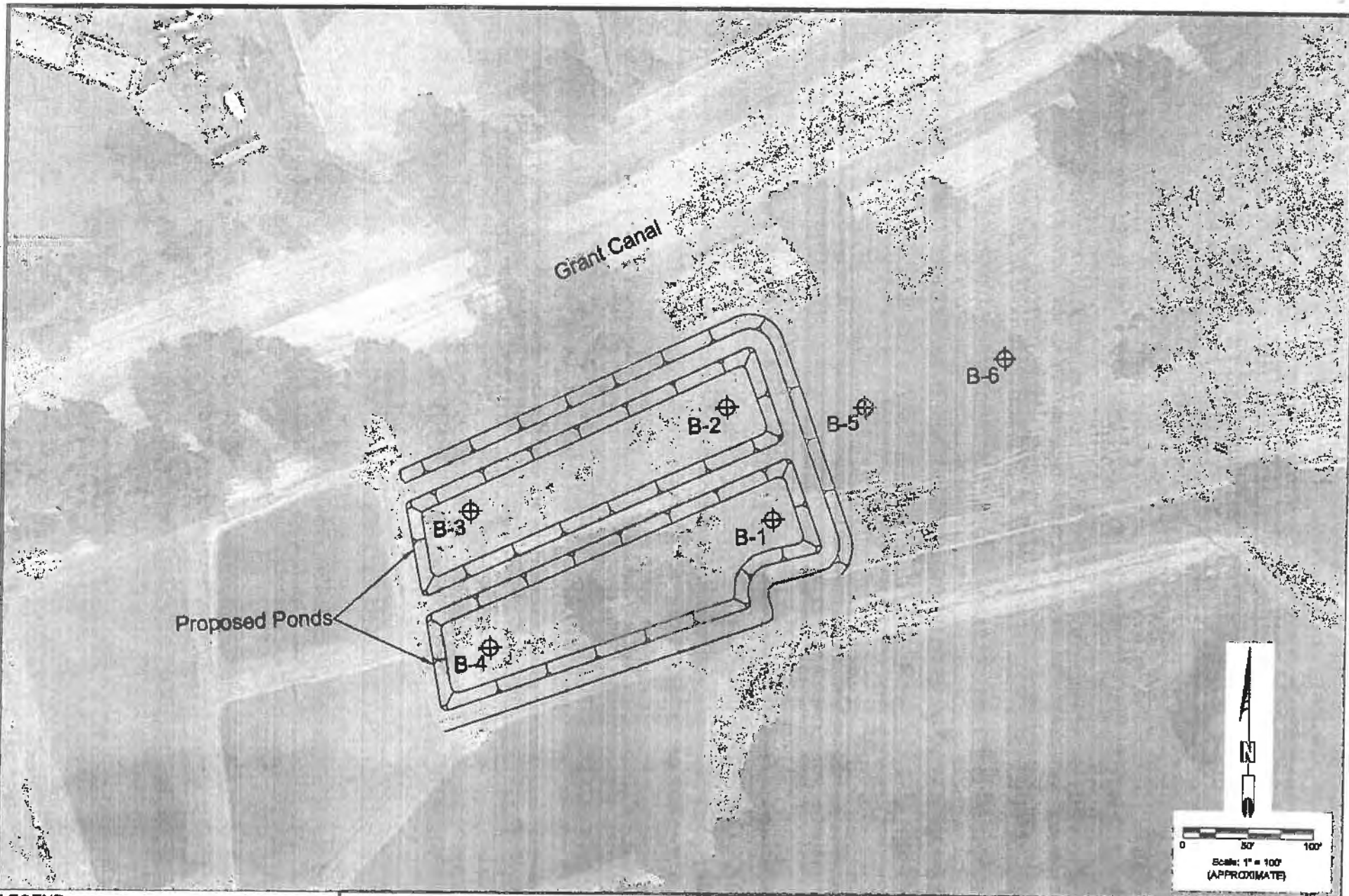
SOIL LOGS


5-01. Soil Logs. Soil borings were conducted at various locations at the Wastewater Treatment Facility. The location of each boring is shown on page 5-2 and identified on each boring log. The borings were terminated at various depths below ground. The borings were accomplished with a BK 81, mobile drill auger. Sieve analysis were conducted on the samples and the soil classification determined as shown on the attached reports by BSK.

The full Geotechnical Engineering Investigation Report prepared June 17, 2015, by BSK Associates can be reviewed at the office of the Engineer.

Q:\Projects\GIS\2015\11F - Proposed Wastewater Pond\Graphics\Site & Vicinity.dwg User:asacres Plot Date: Apr 10, 2015 - 4:46pm Load Date: Apr 10, 2015 - 4:42pm

7-5



LEGEND:  APPROXIMATE BORING LOCATION B-8 REFERENCE IMAGE: GOOGLE MAPS	BSK 550 West Locust Avenue Fresno, California 93650 Tel. (558) 487-2880	SITE MAP	FIGURE 2	
		Proposed Wastewater Ponds Laton Wastewater Treatment Facility Laton, California	JOB NO. <u>GIS-052-11F</u>	
			DATE <u>April 10, 2015</u>	
		DR. BY <u>SPS</u>	SHEET NO. <u>2</u>	
		CH. BY _____	OF <u>2</u> SHEETS	
		SCALE AS SHOWN		

APPENDIX A

Field Exploration

The field exploration was conducted on September 22, 2014, under the oversight of a BSK engineer. Four test borings were excavated to a maximum depth of 26.5 feet below existing ground surface (bgs) within the proposed wash plant area. The approximate location of the test boring is presented on Figure 2, Site Plan.

The soil materials encountered in the test boring were visually classified in the field and log was recorded during the excavation and sampling operations. Visual classification of the materials encountered in the test boring was made in general accordance with the Unified Soil Classification System (ASTM: D2487). A soil classification chart is presented herein. A boring log is presented herein and should be consulted for more details concerning subsurface conditions. Stratification lines were approximated by the field staff on the basis of observations made at the time of excavation while the actual boundaries between different soil types may be gradual and soil conditions may vary at other locations.

Subsurface samples were obtained at the successive depths shown on the boring logs by driving samplers which consisted of a 2.5-inch inside diameter (I.D.) California Sampler or a 1.4-inch I.D. Standard Penetration Test (SPT) Sampler. The samplers were driven 18 inches using a 140-pound, automatic hammer dropping 30 inches. The number of blows required to drive the last 12 inches was recorded as the blow count (blows/foot) on the log of borings. The relatively undisturbed soil core samples were capped at both ends to preserve the samples at their natural moisture content. Disturbed soil samples were obtained using the Split-Spoon Sampler and were placed and sealed in polyethylene bags. At the completion of the field exploration, the test borings were backfilled with the soil cuttings, as set forth in BSK's proposal.

It should be noted that the use of terms such as "loose", "medium dense", "dense" or "very dense" to describe the density of a soil is based on sampler blow count and is not necessarily reflective of the in-place density or unit weight of the soils being sampled. The relationship between sampler blow count and consistency is provided in the following Tables A-1 and A-2 for coarse grained (sandy and gravelly) soils and fine grained (silty and clayey) soils, respectively.

Table A-1: Density of Coarse-Grained Soil versus Sampler Blow Count		
Consistency	SPT Blow Count (Blows / Foot)	2.5" I.D. Cal. Sampler (Blows / Foot)
Very Loose	<4	<6
Loose	4 – 10	6 – 15
Medium Dense	10 – 30	15 – 45
Dense	30 – 50	45 – 80
Very Dense	>50	>80

Table A-2: Consistency of Fine-Grained Soil versus Sampler Blow Count		
Consistency	SPT Blow Count (Blows / Foot)	2.5" I.D. Cal. Sampler (Blows / Foot)
Very Soft	<2	<3
Soft	2 – 4	3 – 6
Medium Stiff	4 – 8	6 – 12
Stiff	8 – 15	12 – 24
Very Stiff	15 – 30	24 – 45
Hard	>30	>45

MAJOR DIVISIONS				TYPICAL NAMES
COARSE GRAINED SOILS More than Half > #200 sieve	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES
			GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES
		GRAVELS WITH OVER 15% FINES	GM	SILTY GRAVELS, POORLY GRADED GRAVEL-SAND-SILT MIXTURES
			GC	CLAYEY GRAVELS, POORLY GRADED GRAVEL-SAND-CLAY MIXTURES
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS WITH LITTLE OR NO FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS
			SP	POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 15% FINES	SM	SILTY SANDS, POORLY GRADED SAND-SILT MIXTURES
			SC	CLAYEY SANDS, POORLY GRADED SAND-CLAY MIXTURES
FINE GRAINED SOILS More than Half < #200 sieve	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
	HIGHLY ORGANIC SOILS		Pt	PEAT AND OTHER HIGHLY ORGANIC SOILS

	Modified California
	Standard Penetration Test (SPT)
	Split Spoon
	Pushed Shelby Tube
	Auger Cuttings
	Grab Sample
	Sample Attempt with No Recovery
CA	Chemical Analysis
CN	Consolidation
CP	Compaction
DS	Direct Shear
PM	Permeability
PP	Pocket Penetrometer

RV	R-Value
SA	Sieve Analysis
SW	Swell Test
TC	Cyclic Triaxial
TX	Unconsolidated Undrained Triaxial
TV	Torvane Shear
UC	Unconfined Compression
(1.2)	(Shear Strength, ksf)
WA	Wash Analysis
(20)	(with % Passing No. 200 Sieve)
	Water Level at Time of Drilling
	Water Level after Drilling (with date measured)

SOIL CLASSIFICATION CHART AND LOG KEY

BSK
Associates
Engineers & Laboratories



BSK Associates
550 W. Locust Ave.
Fresno, CA 93650
Telephone: 559-497-2880

Project: Proposed Wastewater Ponds
Location: Leton Wastewater Treatment Facility
Project No.: G15-052-11F
Logged By: H. Ngo
Checked By: H. Kavarkian

Page 1 of 1

Boring: B-1

Depth (Feet)	Samples	Bulk Samples Penetration Blows / Foot	In-Situ Dry Density (pcf)	In-Situ Moisture Content (%)	% Passing No. 200 Sieve	Graphic Log	USCS	MATERIAL DESCRIPTION	REMARKS
1							ML	Sandy SILT - brown, moist, medium stiff, fine grained sand, trace root/let voids	
2		19	78.9	7.1					
3									
4								... Increase in fine sand content	
5								... very stiff, moderately cemented	
6		40	102.8	3.6					
7									
8									
9									
10							SM	Silty SAND - brown, moist, medium dense, fine grained	
11		16							
12									
13							ML	SILT - gray, moist, very stiff, with orange mottling	
14									
15									
16		42	102.8	13.1			SM	Silty SAND - brown, moist, medium dense, fine grained	
17									
18									
19							SP-SM	SAND - light brown, moist, medium dense, fine to medium grained	
20									
21		25							
22									
23									
24									
								Boring terminated at 21.5 feet Borehole backfilled with soil cuttings No groundwater encountered	

Drilling Contractor: Dave's Drilling
Drilling Method: Hollow stem augers
Drilling Equipment: BK 81
Date Started: 4/6/15
Date Completed: 4/8/15

Surface Elevation: 0.0
Sample Method: 2.4-inch I.D. Modified & 1.5-inch I.D. SPT Split Spoon
Groundwater Depth: Not Encountered
Completion Depth: 21.5 Feet
Borehole Diameter: 8"

* See key sheet for symbols and abbreviations used above.



BSK Associates
550 W. Locust Ave.
Fresno, CA 93650
Telephone: 559-497-2880

Project: Proposed Wastewater Ponds
Location: Laton Wastewater Treatment Facility
Project No.: G15-052-11F
Logged By: H. Ngo
Checked By: H. Kevorkian

Page 1 of 1

Boring: B-2

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	In-Situ Dry Density (pcf)	In-Situ Moisture Content (%)	% Passing No. 200 Sieve	Graphic Log	USCS	MATERIAL DESCRIPTION	REMARKS
1								ML	Bandy SILT - brown, moist, very stiff, fine grained sand	
2			30	79.5	11.1					
3										
4										
5										
6			19							
7										
8								ML	SILT - gray, moist, medium stiff	
9										
10										
11			13	108.8	10.7			SM	Silty SAND - brown, moist, medium dense, fine grained	
12										
13								SP-SM	SAND - light brown, moist, loose, fine grained	
14										
15										
16			10							
17										
18										
19										
20										
21			52					ML	Sandy SILT - brown, moist, hard, fine grained sand	
22									Boring terminated at 21.5 feet Borehole backfilled with soil cuttings No groundwater encountered	
23										
24										

Drilling Contractor: Dave's Drilling
Drilling Method: Hollow stem augers
Drilling Equipment: BK 81
Date Started: 4/8/15
Date Completed: 4/8/15

Surface Elevation: 0.0
Sample Method: 2.4-inch I.D. Modified & 1.5-inch I.D. SPT Split Spoon
Groundwater Depth: Not Encountered
Completion Depth: 21.5 Feet
Borehole Diameter: 8"

* See key sheet for symbols and abbreviations used above.



BSK Associates
550 W. Locust Ave.
Fresno, CA 93650
Telephone: 559-497-2880

Project: Proposed Wastewater Ponds
Location: Laton Wastewater Treatment Facility
Project No.: G15-052-11F
Logged By: H. Ngo
Checked By: H. Kevorkian

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Boring: B-3

Depth (Feet)	Samples Bulk Samples	Penetration Blows / Foot	In-Situ Dry Density (pcf)	In-Situ Moisture Content (%)	% Passing No. 200 Sieve	Graphic Log	USCS	MATERIAL DESCRIPTION	REMARKS
1							ML	Sandy SILT - brown, moist, very stiff, fine grained sand	
2		31	89.0	5.8					
3									
4									
5								... weakly cemented	
6		35	109.4	4.1					
7									
8							SM	Silty SAND - brown, moist, medium dense, fine grained	
9									
10									
11		24							
12								... decrease in silt	
13							SP-SM	SAND - light brown, moist, medium dense, fine to medium grained	
14									
15									
16		44					ML	Sandy SILT - gray, moist, very stiff, fine to medium grained sand	
17									
18									
19									
20									
21		23					SP-SM	SAND - light brown, moist, medium dense, fine to medium grained	
22								Boring terminated at 21.5 feet	
23								Borehole backfilled with soil cuttings	
24								No groundwater encountered	

GEO BORING LOG G15-052-11F.OPJ BSK.GDT 8/12/16

Drilling Contractor: Dave's Drilling
Drilling Method: Hollow stem augers
Drilling Equipment: BK 81
Data Started: 4/8/15
Data Completed: 4/8/15

Surface Elevation: 0.0
Sample Method: 2.4-inch I.D. Modified & 1.5-inch I.D. SPT Split Spoon
Groundwater Depth: Not Encountered
Completion Depth: 21.5 Feet
Borehole Diameter: 8"

* See key sheet for symbols and abbreviations used above.



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Project: Proposed Wastewater Ponds
Location: Laton Wastewater Treatment Facility
Project No.: G15-052-11F
Logged By: H. Ngo
Checked By: H. Kavarklan

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Boring: B-4

Depth (Feet)	Sample Bulk Samples Penetration Blows / Foot	In-Situ Dry Density (pcf)	In-Situ Moisture Content (%)	% Passing No. 200 Sieve	Graphic Log	USCS	MATERIAL DESCRIPTION	REMARKS
1						SM	Silty SAND - brown, moist, medium dense, fine to medium grained	
2	27	97	13.3					
3								
4								
5							... loose	
6	7							
7							... yellow brown	
8						ML	Sandy SILT - yellow brown, moist to very moist, stiff, fine grained sand	
9								
10								
11	23	94	6.0			SP-SM	SAND - light brown, moist, medium dense, fine to medium grained	
12								
13								
14								
15								
16	20							
17								
18						ML	Sand SILT - gray, moist, very stiff, fine grained sand	
19								
20								
21	25	100.6	17.4					
22							Boring terminated at 21.5 feet Borehole backfilled with soil cuttings No groundwater encountered	
23								
24								

Drilling Contractor: Dave's Drilling
Drilling Method: Hollow stem augers
Drilling Equipment: BK 81
Date Started: 4/8/15
Date Completed: 4/6/15

Surface Elevation: 0.0
Sample Method: 2.4-Inch I.D. Modified & 1.5-Inch I.D. SPT Split Spoon
Groundwater Depth: Not Encountered
Completion Depth: 21.5 Feet
Borehole Diameter: 8"

* See key sheet for symbols and abbreviations used above.



BSK Associates
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Telephone: 559-497-2880

Project: Proposed Wastewater Ponds
Location: Laton Wastewater Treatment Facility
Project No.: G15-052-11F
Logged By: H. Ngo
Checked By: H. Kevorkian

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Boring: B-5

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	In-Situ Dry Density (pcf)	In-Situ Moisture Content (%)	% Passing No. 200 Sieve	Graphic Log	USCS	MATERIAL DESCRIPTION	REMARKS
1								ML	Sandy SILT - brown, moist, fine grained sand	
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										

Drilling Contractor:
Drilling Method:
Drilling Equipment:
Date Started: 4/6/15
Date Completed: 4/6/15

Surface Elevation: 0.0
Sample Method:
Groundwater Depth: Not Encountered
Completion Depth: 2 Feet
Borehole Diameter:

* See key sheet for symbols and abbreviations used above.



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Telephone: 559-497-2880

Project: Proposed Wastewater Ponds
Location: Laton Wastewater Treatment Facility
Project No.: G15-052-11F
Logged By: H. Ngo
Checked By: H. Kevorkian

Page 1 of 1

Boring: B-6

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	In-Situ Dry Density (pcf)	In-Situ Moisture Content (%)	% Passing No. 200 Sieve	Graphic Log	USCS	MATERIAL DESCRIPTION	REMARKS
1								ML	Sandy SILT - brown, moist, fine grained sand	
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										

Drilling Contractor:
Drilling Method:
Drilling Equipment:
Date Started: 4/6/15
Date Completed: 4/6/15

Surface Elevation: 0.0
Sample Method:
Groundwater Depth: Not Encountered
Completion Depth: 2 Feet
Borehole Diameter:

* See key sheet for symbols and abbreviations used above.

APPENDIX F

FLOOD HAZARD MAPS

WASTEWATER TREATMENT AND DISPOSAL

FACILITIES IMPROVEMENT PROJECT

LATON COMMUNITY SERVICES DISTRICT

National Flood Hazard Layer FIRMette



36°26'3.92"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone 1
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levees, See Notes, Zone X
		Area with Flood Risk due to Levees Zone D

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance
		17.6 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature

MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/7/2020 at 5:45:51 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

0 250 500 1,000 1,500 2,000 Feet 1:6,000

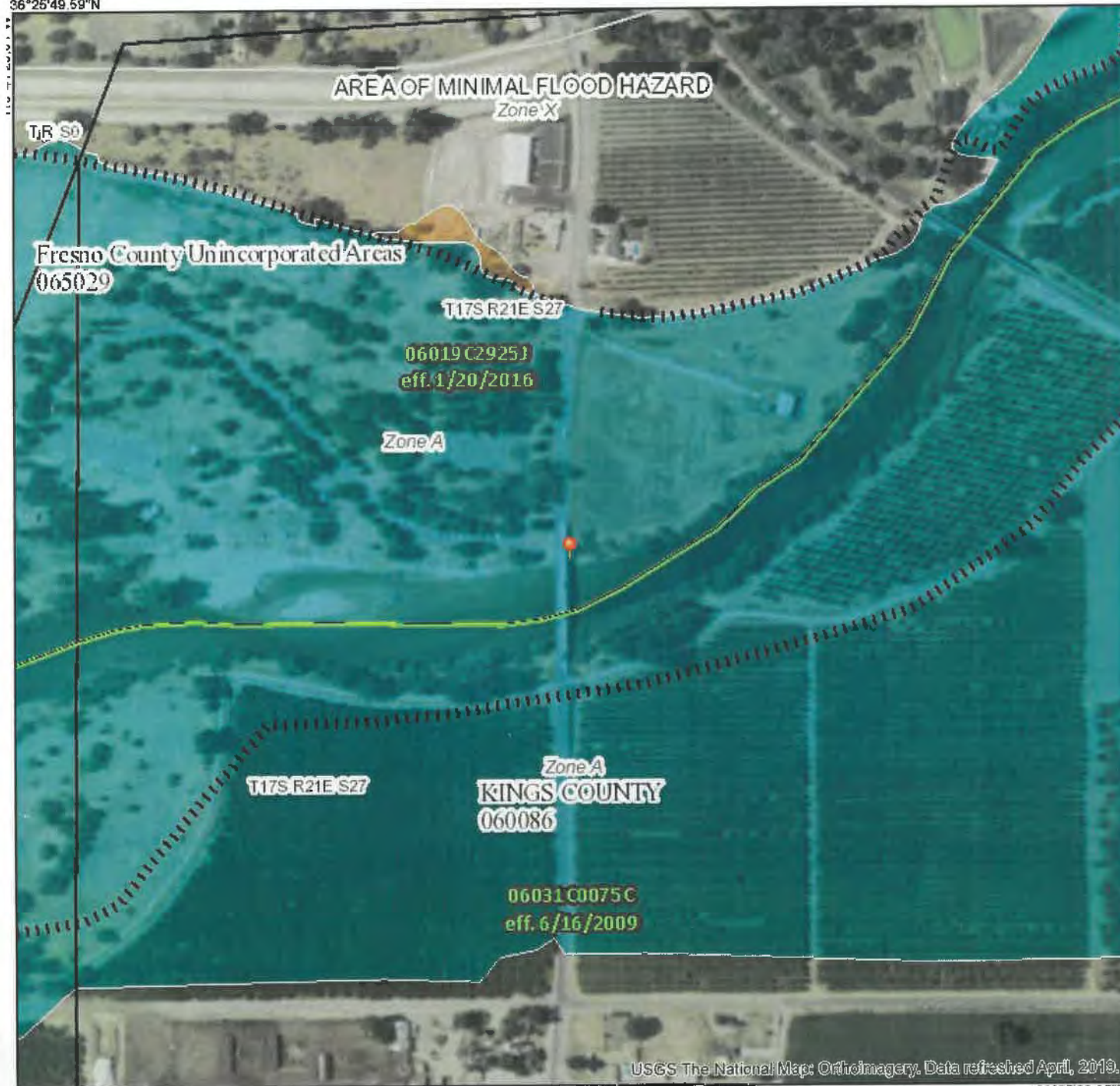
36°25'34.97"N

119°40'40.43"W

National Flood Hazard Layer FIRMette



36°25'49.59"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone I
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes, Zone X
		Area with Flood Risk due to Levee Zone D

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone

GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.8 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature

MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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USGS The National Map, Orthoimagery. Data refreshed April, 2019.

0 250 500 1,000 1,500 2,000 Feet 1:6,000

36°25'20.65"N

119°40'51.56"W