FINAL
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

PASO ROBLES WATER TREATMENT PLANT AND MAIN EAST PIPELINE PROJECT

Lead Agency:

City of El Paso de Robles

Environmental Consultant:

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369 Pacific Street
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Project No. 0802-0631

December 24, 2008

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ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

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1.0 INTRODUCTION

1.1 PURPOSE OF THE IS/MND

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared to identify and assess the anticipated environmental impacts for the Paso Robles Water Treatment Plant (WTP) and Main East Pipeline Project (Project). The City of Paso Robles (City) is a Project Participant in the Nacimiento Water Project (NWP) currently being implemented by the San Luis Obispo County Flood Control and Water Conservation District (District). The NWP is a regional water supply system that will convey raw water from Lake Nacimiento to communities in San Luis Obispo County, including the City. The City will construct a Water Treatment Plant (WTP) Project to treat surface water received from Lake Nacimiento. The WTP will provide additional treated water supplies to the City's distribution system west and east zones to increase supply reliability (especially in the summer months), provide a higher quality supply to existing customers, and to address increasing water demands within the City's service area. The WTP Project is designed as a 6 million gallon per day (mgd) facility for initial operation in Year 2010, expandable to 12 mgd to meet ultimate future demand.

The main Proposed Project facilities include a Water Treatment Plant, Treated Water Reservoir and Pump Station, Transmission Pipeline, and Appurtenances & Other Site Improvements.

This document has been prepared to satisfy the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences of projects for which they have discretionary authority before they approve or implement such projects.

The Initial Study (IS) is a public document used by the decision-making lead agency to determine whether a project may have a significant effect on the environment. In the case of the Project, the City is the Lead Agency and will use the IS to determine whether the project has a significant effect on the environment. If the lead agency finds substantial evidence that any aspect of the project, either alone or in combination with other projects, may have a significant effect on the environment, that agency is required to prepare an Environmental Impact Report (EIR), a supplement to a previously prepared EIR, or a subsequent EIR to analyze the project. If the lead agency finds no substantial evidence that the project or any of its aspects may cause a significant impact on the environment, a Negative Declaration shall be prepared. If, over the course of the analysis, the project is found to have a significant impact on the environment that, with specific mitigation measures, can be reduced to a less than significant level, a Mitigated Negative Declaration (MND) shall be prepared.

1.2 IS/MND FORMAT AND CONTENTS

In addition to Section 1.0 - Introduction, this IS/MND is organized into the following sections:

- **Section 2.0 - Project Description:** Includes a detailed description of the Project.
- **Section 3.0 - Environmental Checklist and Discussion:** Contains the Environmental Checklist Form together with an environmental setting and an impact discussion for each of the checklist questions. The Checklist Form is used to determine the following for the Project:
  1) "Potentially Significant Impacts" that may not be mitigated even with the inclusion of mitigation measures;
  2) "Potentially Significant Impacts Unless Mitigated" which could be mitigated with incorporation of mitigation measures; and,
  3) "Less Than Significant Impacts" which would be less than significant and do not require the implementation of mitigation measures.
- **Section 4.0 - Determination:** Identifies the determination of whether impacts associated with development of the Project are significant, and what, if any, additional environmental documentation may be required.
- **Section 5.0 - References:** Identifies the documents (printed references) and individuals (personal communications) consulted in preparing this IS/MND.

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The Project lies within the Paso Robles city limits in northern San Luis Obispo County (see Figure 2-1). The City has a population of over 29,000 people - the second most populous city in the County. San Luis Obispo County is bordered by Monterey County to the north and Santa Barbara County to the south. U.S. Highway 101 (U.S. 101), the main freeway through the City, bisects it on a north-south route.

The Project area is located at the City's existing Thunderbird Well Field property and the pipeline alignment extending north of the WTP site. The Union Pacific Railroad (UPRR) lies west of the WTP site and the portion of the proposed pipeline route lying west of the Salinas River. West of the UPRR right-of-way is located industrial properties. Agricultural land exists north and south of the WTP. The Salinas River lies east of the WTP site. The elevation of the WTP site is approximately 720 feet above mean sea level with a slightly sloping terrain to the east towards the Salinas River.

The Main East pipeline route extends northward from the WTP through an existing agricultural parcel, then east under the Salinas River. East of the Salinas River, the pipeline route would extend eastward within the future Charolais Road right-of-way along southern edge of an existing residential neighborhood to South River Road (see Figure 2-2). The Project area is located on the Templeton, California, United States Geologic Survey (USGS) 7½-minute topographic series Quadrangle Map.

2.2 PROJECT CONTACT PERSON

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City of El Paso de Robles
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Paso Robles, CA
(805) 237-3861

2.3 PROJECT PURPOSE AND OBJECTIVES

The City is a participant in the NWP project currently being constructed by the District. Based on the current design of the NWP and agreement between the City and the District, the City has an initial entitlement of 4,000 AFY. The WTP is intended to treat raw water delivered through the NWP for use by City residents. The WTP will provide additional treated water supplies to the City's distribution system west and east zones to increase supply reliability (especially in the summer months), provide a higher quality supply to existing customers, and to address increasing water demands within the City's service area. Section 2.4 provides a detailed discussion of Project components.

2.4 PROJECT DESCRIPTION

2.4.1 Water Treatment Plant Layout

The WTP site is at the existing Thunderbird Well Field which is located in the southern part of the City, immediately west of the Salinas River. The site has an area of approximately 13 acres. Figure 2-2 presents an aerial photograph of the existing conditions at the WTP site and surrounding features.

The WTP will treat raw water deliveries from the NWP, and will blend the treated surface water with groundwater from the Thunderbird Wells. The Project is designed as a 6 million gallon per day (mgd) facility for initial operation in Year 2010, expandable to 12 mgd to meet ultimate future demand. The primary WTP components are as follows:

- Raw Water Facilities.
- Treatment Process.
- Chemical Facilities.
- Treated Water Blending Facilities.
- Operations Building.

2.4.1.1 Raw Water Facilities

The NWP raw water supply will be delivered to the WTP via NWP Turnout “T2” constructed as part of the NWP Project. The turnout will consist of flow metering and pressure reduction equipment and associated control panels on an above grade concrete pad. Current NWP plans for the turnout show its location approximately 290 feet west of the Salinas River on the WTP site.

A multiple element static mixer will be installed downstream of Turnout T2 with potassium permanganate ($KMnO_4$) and ozone injection points for oxidation and taste and odor control. Ozone will also serve as the primary disinfectant.

2.4.1.2 Treatment Process

The treatment process will consist of the following principal steps:

- Pre-Treatment.
- Membrane Filtration.
- Pre-Planning for Future Granular Activated Carbon Treatment (GAC).
- Chlorine Disinfection (backup system to Ozone).

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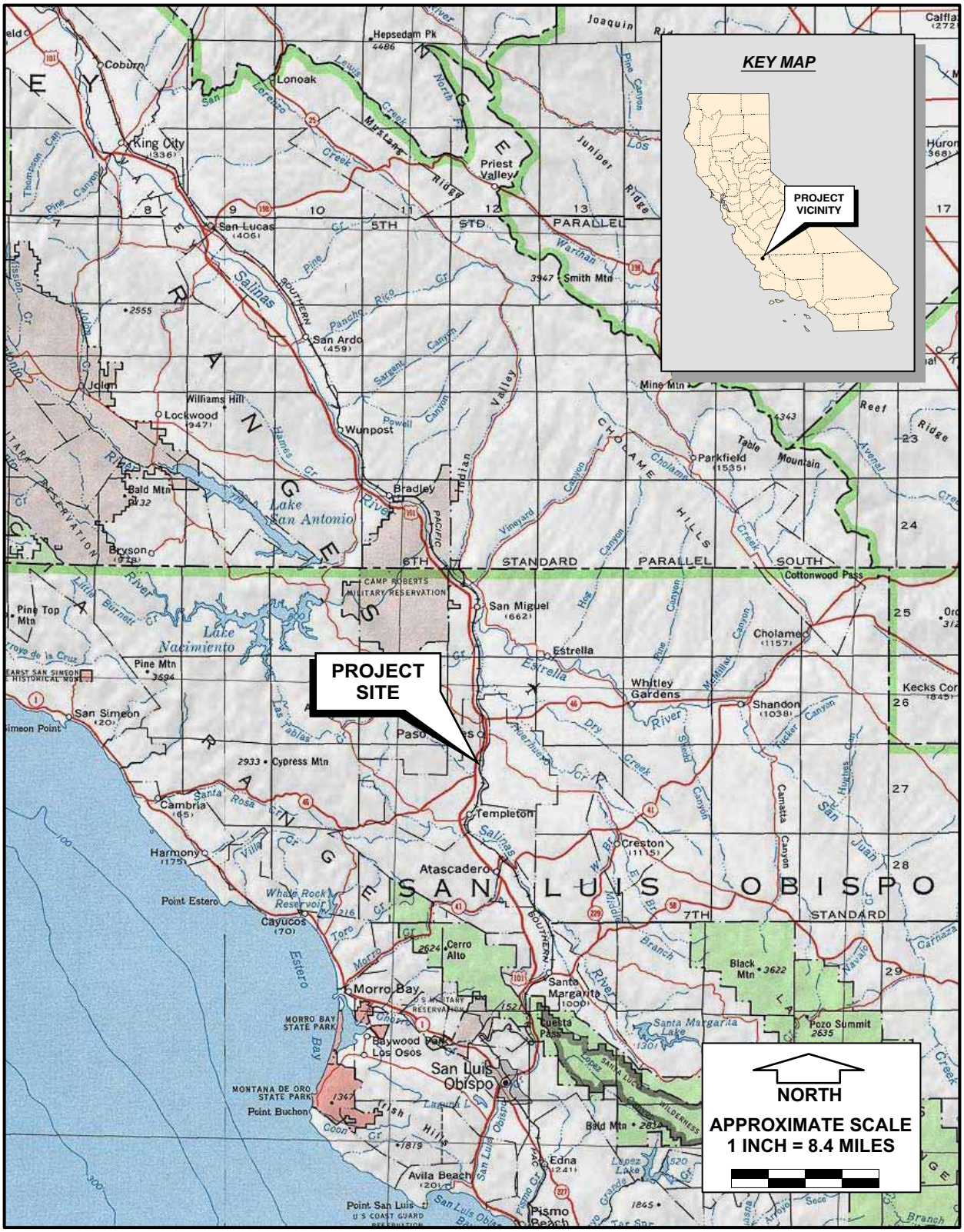

Source: TOPO! c 2004 National Geographic Holdings (www.topo.com)

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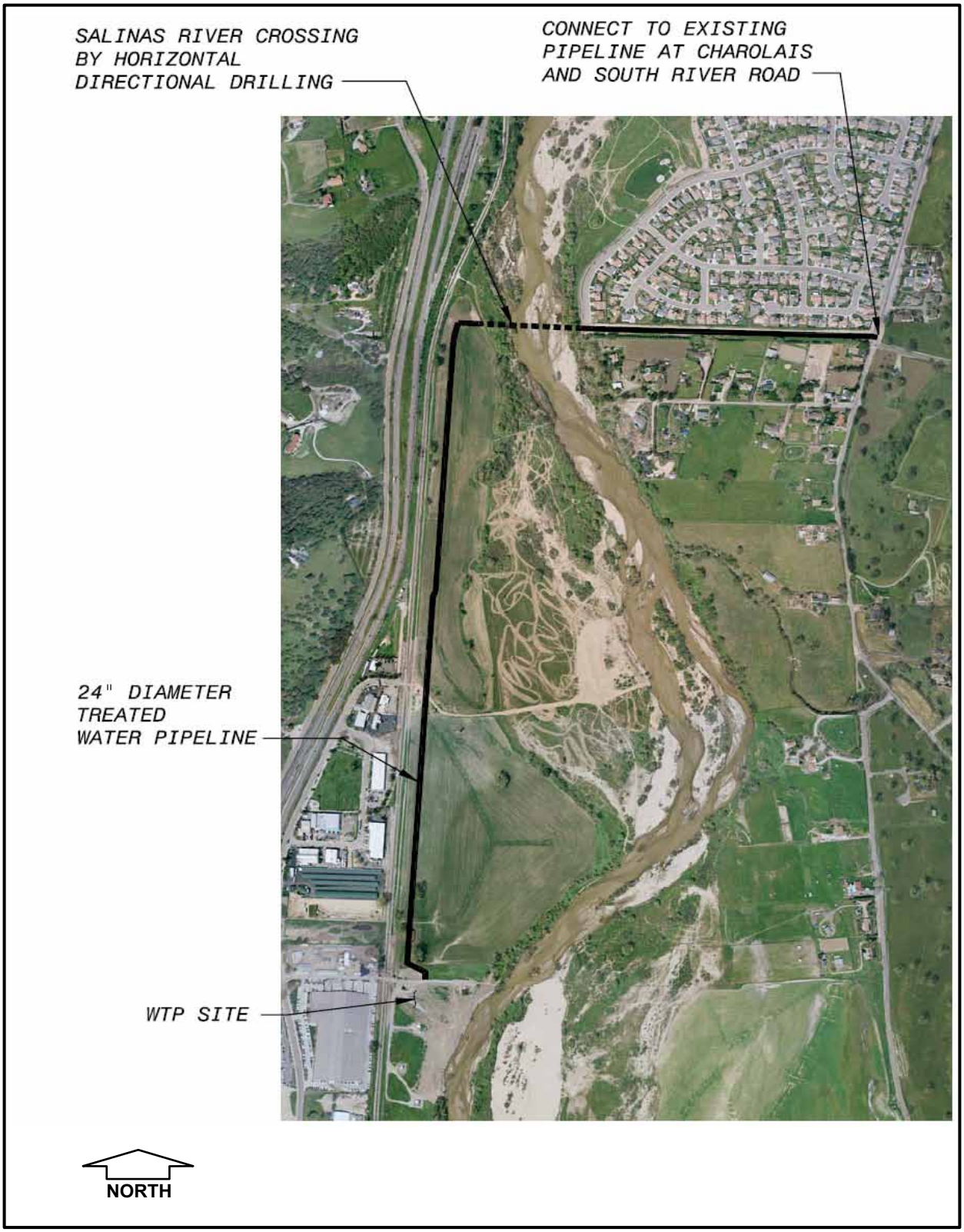
SITE VICINITY MAP

Paso Robles Water Treatment Plant and Main East Pipeline Project IS/MND

FIGURE 2-1



Source: Black and Veatch, 2007.

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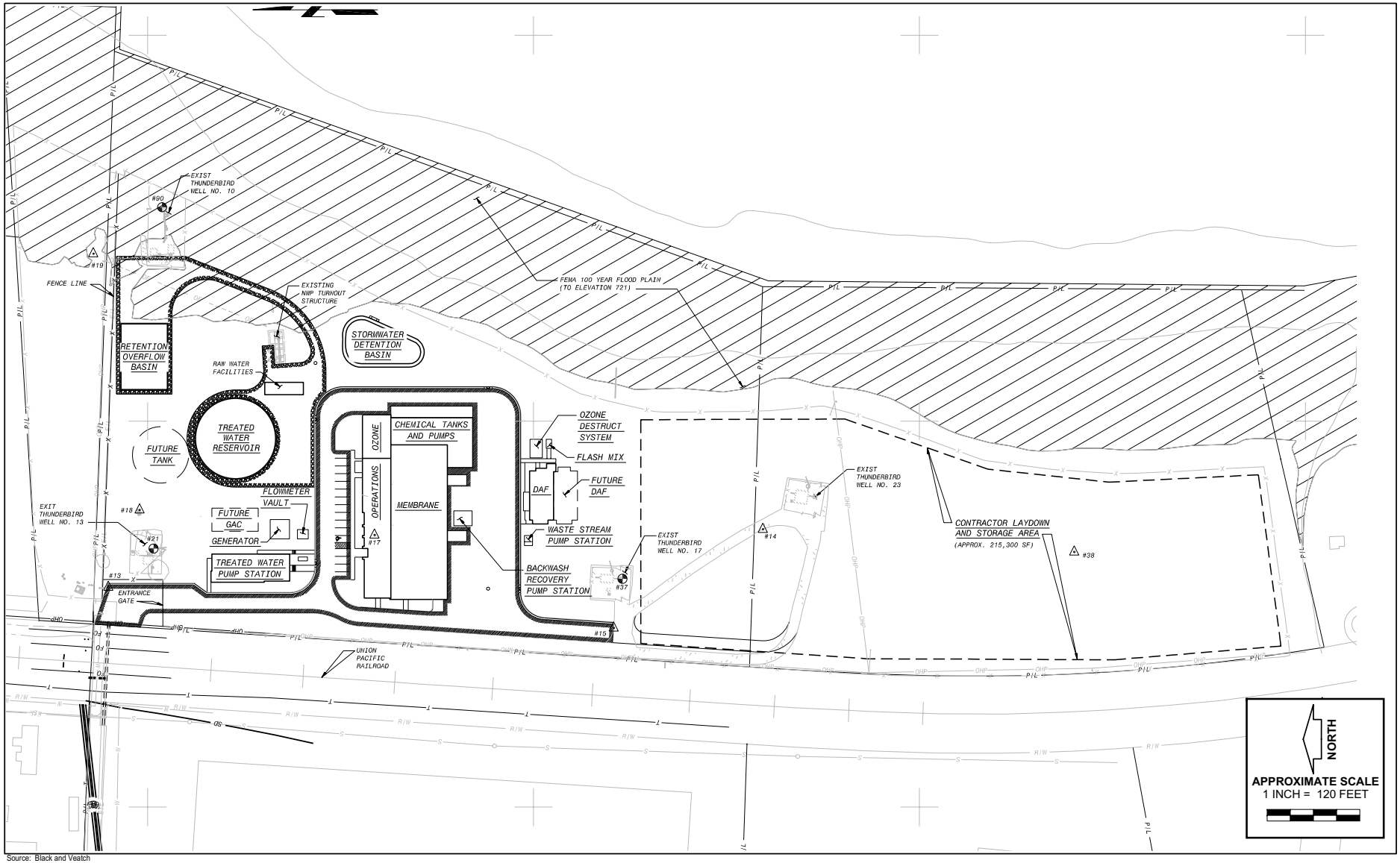
SITE LOCATION MAP

FIGURE 2-2



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WATER TREATMENT PLANT SITE LAYOUT

FIGURE 2-3

Pre-Treatment. The recommended pre-treatment process has the following elements:

- $KMnO_4$ addition for iron and manganese removal. The KMnO4 feed system will be located inside the Operations Building.

- Ozone for primary disinfection and taste and odor control. Ozone will be used as a primary disinfectant and also for taste and odor control. The raw water pipeline entering the WTP will be used as the ozone contactor. The liquid oxygen (LOX) tank and vaporizers will be located under the open canopy portion of the Operations Building next to the bulk chemical storage area. The ozone generators and power supply units will be located in the enclosed eastern part of the Operations Building.

- A Flash Mix Pump Station will be provided downstream of ozone contactor pipe to inject PACL coagulant into the raw water.

- Dissolved Air Flotation (DAF) with coagulant addition. The DAF equipment will be located in partially buried concrete basins with two trains, each capable of handling 3.0 mgd flow. Each train will consist of a flocculation zone and a flotation zone. The DAF basins will be located on the south side of the Operations Building.

Membrane Filtration

Membrane filtration has been selected for the treatment process, using either pressure membranes or submerged membranes, with the selection to be made on the basis of economic feasibility as part of the membrane procurement evaluation process. The membrane filtration system will be located in the Operations Building and will consist of membrane feed/filtrate pumps, membrane filtration units, clean-in-place (CIP) equipment, compressed air equipment, and associated electrical and control systems.

If pressure membranes are selected, membrane feed pumps will transfer water from the DAF through the membranes to the treated water reservoir. If submerged membranes are selected, there will be gravity flow from the DAF units to the membrane tanks, and the membrane filtrate pumps will pump the filtrate from the membrane tanks to the treated water reservoir. Treated water from the membranes will be blended at the treated water blending facilities with groundwater from the existing Thunderbird Wells prior to sending to the treated water reservoir.

Membrane backwash will be collected in a backwash recovery basin and pumped to the head of the plant (Raw Water Blending Structure) by backwash equalization pumps.

Master Planning for Granular Activated Carbon (GAC)

Granular activated carbon may be required as a future side stream process for additional total organic carbon (TOC) reduction and disinfection byproducts (DBP) control. In the initial 6 mgd phase of the WTP Project, the treated surface water from Lake Nacimiento will be blended with the available groundwater from the existing Thunderbird Wells on-site. Under this mode of operation, further treatment using GAC for DBP control is not required as there is sufficient

groundwater available. When the plant is expanded to 12 mgd in the future, implementation of GAC would be required. Preliminarily, a footprint of approximately 30 feet by 60 feet has been set aside west of the treated water reservoir. Detailed evaluation and sizing of the side stream GAC system will need to be done as part of the future expansion phase. The GAC facilities would most likely consist of pressure vessels enclosed in a canopy-type structure.

Backup Disinfection

Primary disinfection will be provided using ozone upstream of the DAF and membrane filtration. In the event the ozone system is down, backup disinfection will be provided using free chlorine (sodium hypochlorite). Sodium hypochlorite will be fed downstream of the blended water (treated water and groundwater from Thunderbird Wells), prior to storage in the treated water reservoir.

2.4.1.3 Chemical Facilities

The Operations Building will house the ozone and chemical systems, including chemical metering pumps, ozone generation equipment and associated electrical equipment, liquid oxygen tank, vaporizers, chemical storage tanks, and associated transfer pumps. The portion of the building housing storage tanks will be an open area with a building roof above. The tanks and equipment will be screened from view by landscaping.

- KMnO4 will be used as an oxidant for iron and manganese and will be fed downstream of the NWP Turnout, upstream of ozone injection. KMnO4 will be delivered dry in 330 pound (lb) drums and converted to liquid form for feeding to the raw water pipeline.

- Polyaluminum chloride (PaCl) solution will be used as a coagulant and will be fed upstream of the DAF system. The feed system will include a storage tank, metering pumps, chemical piping, valves, controls, and accessories. PaCl will be delivered to the site by tanker trucks at a minimum concentration of 50 percent.

- Sodium hypochlorite (NaOCl) will be used as a backup disinfectant and will be fed downstream of the treated water blending facilities prior to treated water reservoir. Optional feed points will be provided upstream of the membranes and downstream of the treated water reservoir. The sodium hypochlorite feed system will include storage tanks, transfer pumps, metering pumps, chemical piping, valves, controls, and accessories. Sodium hypochlorite will be delivered to the site via tanker trucks at a minimum concentration of approximately 12.5 percent.

- Sodium hydroxide (NaOH) will be used in the process to adjust pH and will be fed downstream of the treated water reservoir. The sodium hydroxide feed system will include a storage tank, transfer pumps, metering pumps, chemical piping, valves, controls, and accessories. Sodium hydroxide will be delivered to the site via tanker trucks.

- Calcium thiosulfate will be used in the process to quench residual ozone and will be fed upstream of the DAF system. The calcium thiosulfate feed system will consist of a storage tank/tote, metering pumps, chemical piping, valves, controls, and accessories.

- Membrane CIP chemicals. The membrane CIP chemicals will consist of sodium hypochlorite, sodium hydroxide, and citric acid. Sodium hypochlorite and sodium hydroxide from the bulk storage tanks will be fed using metering pumps to the membrane filtration system. The citric acid feed system will be located in the Membrane Room of the Operations Building and will consist of an acid tote and metering pumps, piping, valves, and accessories.

- Sodium bisulfite will be used to neutralize the spent membrane CIP waste prior to discharging to the sewer system. The sodium bisulfite feed system will be located in the Operations Building and will consist of a chemical tote, metering pumps, piping, valves, and accessories.

2.4.1.4 Treated Water Blending Facilities

The filtered water from the membranes will be blended with water from the existing Thunderbird Wells at the WTP site, prior to entering the treated water reservoir. Quantities of well water and filtered water will be selected to meet the desired treated water qualities. Blending will be carried out prior to disinfection of the blended water.

Operations Building

The Operations Building will be located centrally within the WTP site area. The Operations Building will be approximately 120 feet wide by 240 feet long (28,800 square feet). The building will have rooms to house the membrane equipment, ozone and chemical equipment, and provide space for plant operators to work. Operations staff areas will include a control room; operator's laboratory; and restrooms/locker rooms. For site layout and planning purposes, a 4,000 square foot area within the Operations Building has been set aside for operations staff use.

2.4.1.5 Treated Water Reservoir and Pump Station

After disinfection, the treated (blended) water will be conveyed to the treated water reservoir for storage prior to being pumped out to the Main East and Main West distribution mains. The treated water reservoir will also provide the required contact time for disinfection when sodium hypochlorite is used as an alternative disinfectant.

A 1.2 million gallon welded steel treated water reservoir is planned for the north end of the site. The tank will be constructed at-grade, and will be approximately 100 foot diameter and 24 feet high. A future 600,000 gallon storage reservoir would be added when the plant is expanded to 12 mgd capacity.

The treated water pump station (TWPS) will convey water from the treated water reservoir to the distribution system. Dedicated pumps for Main East and Main West distribution mains are planned. The pumps will be vertical turbine type with a below grade suction connection to the pump can and above grade discharge.

The TWPS will be a single story building, approximately 30 feet wide and 90 feet long, with architectural treatment consistent with the remainder of the site. Removable skylights will be provided above each pump. The building will have two rooms: pump room and electrical room. The pump room will accommodate the vertical turbine type pumps in cans complete with motors, pump discharge piping, valves, an air compressor system for the valve actuators, and HVAC equipment. All of the electrical panels will be housed in the Electrical Room.

The TWPS building will be arranged such that the pump suction piping directs flow from the Treated Water Reservoir to the TWPS and the pump discharge piping directs flow from the TWPS to the northwest corner of the site. Surge tanks will be installed inside of the treated water pump station building.

2.4.1.6 Landscaping and Energy Efficiency

The landscape design for the site will utilize the Salinas River as the focal point to define the planting palette and overall character. The planting design will use a riparian/oak woodland mix to blend in with the surrounding area and to reinforce its character. The landscape planting will also be designed to provide screening of the facility buildings, tanks, and other structures from view outside of the property. Using an earth tone color palette for the hardscape and native plantings, the landscape will appear to nestle into the environment, blurring the boundary between the natural environment and the facility.

The Project will include a horse and pedestrian trail network that will connect to the future trail system provided for in Salinas River Vision Plan. The trail will continue along the perimeter of the facility and allow access to adjacent walks, access across the railroad, and connections to an array of open space amenities, including a neighborhood park and trail head.

The City's desire for the Operations Building to incorporate LEED features will engender environmentally sensitive landscape design strategies. In keeping with water conservation goals, the Project will use drought tolerant native plants, drip irrigation, and possibly moisture-sensing irrigation technologies. Through the design process, the use of a captured rainwater system or a non-potable water source to reduce potable water consumption for irrigation will be evaluated. The City also intends to install solar photo-voltaic array on-site to generate on-site electricity as part of a future project.

To reduce the potential for a heat island effect on non-roof applications, the design will implement highly reflective impervious paving surfaces and planting shade trees in vegetation strips around parking lots and sidewalks. The site design will also address light pollution reduction in the landscape. The lighting program will minimize site lighting where possible and incorporate full cutoff-luminaries, low-reflectance surfaces, and low-angle spotlights such as tree accent uplights and signage lights. A schematic landscape plan is illustrated on Figure 2-4.

SOURCE: Wallace Group

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SCHEMATIC LANDSCAPE PLAN
FIGURE 2-4

2.4.2 Transmission Pipeline

A new transmission pipeline will be constructed to interconnect the WTP with the City's Main East distribution system. The treated water pump station will be connected to the east zone by connecting to both the existing east zone 16" pipeline and a new 24" pipeline, both of which would interconnect to the Main East zone at South River Road and Charolais Road. The new 24" pipeline will parallel the existing 16" pipeline north of the site and make a crossing of the Salinas River at Charolais Road.

The 24" Main East pipeline will be approximately 7,800 feet long, with approximately 800 feet of that total length to be installed as part of a crossing of the Salinas River.

To interconnect with the Main West distribution system, the treated water pump station will be connected to both the existing west zone 16" pipeline that goes north along the UPRR to 1st Street and the new Theater Drive pipeline. This connection will be made in the vicinity of the new pressure regulating valve vault at the northwest corner of the well field site.

2.4.3 Appurtenances and Other Site Improvements

A natural-gas powered standby engine generator will be provided to provide emergency power to the WTP in case of a Pacific Gas and Electric Company (PG&E) electrical power failure. The standby engine generator will be located centrally on site. The generator will be mounted on a concrete pad and located outdoors under a canopy structure as required. Acoustic treatment will be provided as required to mitigate noise issues. Generator sizing is currently being reviewed with the City and will be finalized during the final design phase.

A sanitary lift station will be provided as required. An overflow retention basin, stormwater collection pond and lift station will be provided as required. Adequate landscaping will be provided to screen the facilities from view.

2.4.4 Proposed Project Operations

This section includes an overview of Project Operations. The City's existing water supply is entirely from groundwater wells. There are a total of 14 active groundwater wells, out of which five wells draw water from the Salinas River underflow and account for approximately 3,750 acre-feet per year (AFY). Nine wells draw water from deeper groundwater basins and account for the remaining 3,750 AFY of the City's current demand. There are additional wells which have either been abandoned or not in use currently.

Well water is pumped directly into the distribution system with priority given to operating the wells that pull from the Salinas River underflow in order to fulfill the underflow permit allocation. During high demand, wells are supplemented by storage tanks and reservoirs. During low demand, water not used in the system fills the tanks and reservoirs. Booster pumps are fed from the gravity zones to supply adequate system pressure to the upper elevations. At

the 13th Street Booster Pump Station, water can be either gravity fed from the east main zone to the west main zone or pumped from the west main zone to the east main zone.

Based on the current design of the NWP and agreement between the City and the District, the City has an initial entitlement of 4,000 AFY with a maximum instantaneous flowrate of 9.03 cubic feet per second (cfs) (4,058 gpm) and a maximum monthly consumption of 537 acre-feet (AF). Also, the City's NWP entitlement could increase later to include some of the reserve capacity available in the NWP system, based on mutual agreement between the City and District.

Water from the turnout will flow to the DAF unit by gravity. If pressure membranes are selected, a membrane feed pump station will be required downstream of DAF which would pump pre-treated water through the membranes all the way to the treated water tank. The filtered water from the membranes will be blended with water from Thunderbird Wells, within the WTP site, prior to the treated water reservoir.

The WTP will operate continuously, barring emergency situations requiring shut down of the plant. Flow rates through the plant will be as decided by the WTP operator on a daily basis.

The operations protocol will be to take Nacimiento deliveries as the base water supply to the City, with the river wells first in line for makeup supplies such that the City's appropriative rights are fully exercised, followed by operation of the groundwater wells to meet remaining demand.

2.4.5 Proposed Project Construction Activities

2.4.5.1 Construction Methods - WTP

Construction of the WTP will involve site grading, installation of pipelines and utilities, building construction, water tank construction, installation of equipment and electrical and mechanical systems, and startup and testing. Construction of the WTP facilities will take place at the existing Thunderbird Wellfield site. Access to the site will be via the City's existing access road from Ramada Drive. Principal deliveries to the site will include imported earthwork materials, building and roofing materials, process and building equipment, chemical storage tanks, and associated piping and fittings.

The initial construction activity will involve grading of the site to match building foundation levels. This will be followed by installation of the underground pipelines and buried utilities. With the initial site work completed, building foundations will be placed followed by building wall and roof construction.

In parallel with the building construction, the treated water reservoir will be built at the north end of the site. This will involve placement of concrete slabs, walls and roof, and prestressing the walls with a wire wrap. At completion of the building shells, the process equipment will be installed and the building systems completed. Once all facilities are constructed, a systematic process of testing each system and subsystem is performed. This will be followed by startup of the plant and production of treated water.

The typical equipment utilized for WTP construction will include track-mounted excavators, backhoes, cranes, compaction equipment, end and bottom dump trucks, front-end loaders, ten-wheel dump trucks, water trucks, flat-bed delivery trucks, forklifts, pavement equipment, concrete trucks, and compressors / jack hammers.

2.4.5.2 Construction Methods – Transmission Pipeline

The transmission pipeline will be constructed using open trench, cut and cover methods and by the horizontal directional drilling method at the Salinas River crossing.

Open Trench (Cut And Cover) Pipeline Construction

The initial operation will involve clearing the pipeline easement along the alignment. A backhoe or excavator is used to dig the trench down to subgrade. Imported pipe bedding material is placed in the trench invert prior to lowering the pipe into the trench. As each pipe length is joined together, the pipe is encased in an imported backfill material which is placed around and over the top of the pipe and then compacted. The trench is then backfilled with a suitable material and the surface is restored to the pre-construction condition.

During the trenching operations, the excavated material is either stockpiled onsite on one side of the trench if suitable for re-use as trench backfill material, or is placed in trucks for hauling off-site. A portion of the easement width is reserved for stockpiling materials. Pipe materials deliveries are made on the opposite side of the trench for stringing pipe along the alignment.

Horizontal Directional Drilling (HDD) Construction

HDD will be used to install the approximate 800-foot long reach of pipeline that crosses the Salinas River. HDD utilizes a steerable trenchless construction method and, when combined with directional and positional information, makes horizontal and vertical control possible. This method is used for the installation of pressure pipelines in an inverted arc profile. The method is well suited for installing pipelines under rivers or under surface and underground obstructions. HDD is normally a three-step process:

1. The HDD drill rig is set up above ground and the platform inclined between 8 to 15 degrees from horizontal. A 4- to 12-inch diameter hollow steel pipe drill string with a drill head at the lead is pushed forward along a pilot bore path. Driller's Mud or slurry, typically consisting of bentonite, is pumped to the drill head under pressure. The Driller's Mud exits through the cutting nozzles or through the mud motor on the drill head assisting with excavation and carries earth spoils back to the drill rig through the annular space of the drilled hole. The pilot bore is extended to the "exit side" or "pipe side" of the HDD installation. The bore path has to be sufficiently deep to prevent "inadvertent returns" ("frac outs") of drilling slurry to the ground surface along the drill path, while at the same time being able to contain the pressure needed to carry spoils back to the drill rig.

2. Once the pilot bore exits the ground at the intended location, a back-reamer is attached to the drill string. Bentonite slurry is again pumped to jets on the reamer

from the drill rig side. As the reamer is pulled back to the drill rig, additional pieces of drill string are added to the tail end of the reamer on the exit (pipe) side of the installation. Once the backreamer is retrieved at the drill rig side of the crossing, the entire enlarged tunnel still contains a full length of drill string. The hole remains filled with "Driller's Mud" to provide the necessary temporary ground support. The reaming process will be repeated until the desired hole size is achieved. The hole may be "swabbed" by passing through a tool that approximates the hole size and carries large soil particles to the surface and encourages "caking" of the sidewalls by forcing mud into the sidewall.

3. During the pilot bore and back-reaming operations, a separate crew will assemble the entire length of carrier pipe to be pulled back into the bore hole. For an inverted arc bore, the bore hole will remain full of bentonite slurry. Smooth jointed welded steel or high density polyethylene (HDPE) carrier pipe is assembled and left on rollers. This pipe string is then attached with a swivel head to the drill string and is pulled from the pipe side to the drill side in one continuous operation.

2.4.6 Schedule

Construction of the Project is scheduled to commence in ~~early Spring~~mid 2009. The overall duration of construction is expected to be about 18 months. WTP construction activities will require 12-18 months. Pipeline construction activities will require 8 weeks during ~~the summer of~~ 2009. HDD activities at the Salinas River are anticipated to require 5 weeks ~~between June and September of~~in 2009.

2.4.7 Land Use and Zoning

The WTP site and pipeline route west of the Salinas River is zoned for Planned Industrial uses (PM). The adjacent properties west of the WTP site are zoned for Manufacturing uses (MPD). The Salinas River corridor is zoned for Open Space. The residential neighborhood east of the Salinas River and north of the proposed pipeline route is zoned for single-family residential uses. Single-family residences which are outside of the City limits exist south of the Charolais Road right-of-way portion of the pipeline route. The proposed Project will require approval of a City Conditional Use Permit.

2.5 RESPONSIBLE AGENCIES/REQUIRED PERMITS AND APPROVALS

Additional subsequent approvals and other permits that may be required from local, regional, state, and federal agencies are identified below:

- City for approval of Conditional Use Permit, and grading/building permits and oak tree removal permit;
- Air Pollution Control District (APCD) for consultation with air quality mitigation measures and an authority to construct/ permit-to-operate for back-up electrical generators;

- Streambed Alteration Agreement from the California Department of Fish and Game (CDFG) if the Project will result in disturbance to the riparian vegetation or bed/bank of the Salinas River (based on discussions with the CDFG, this permit will likely not be required if the project will not affect the bed or banks of the Salinas River);
- Water Supply Permit Amendment issued by the California Department of Public Health;
- Section 404 Nationwide Permit issued by the U.S. Army Corps of Engineers, San Francisco District, Regulatory Branch (based on discussions with the Corps, this permit will likely not be required if the project will not affect the bed or banks of the Salinas River); and
- Section 401 Water Quality Certification issued by the California Regional Water Quality Control Board, Central Coast Region (only required if Section 404 permit is required).

3.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION

The environmental factors checked below potentially would be affected by this Project.

☒	Aesthetics	☐	Mineral Resources
☒	Agricultural Resources	☒	Noise/Vibration
☒	Air Quality	☐	Population and Housing
☒	Biological Resources	☐	Public Services
☒	Cultural Resources	☐	Recreation
☒	Geology, Seismicity and Soils	☒	Transportation/Circulation
☒	Hazards/Hazardous Materials	☒	Utilities and Service Systems
☒	Hydrology and Water Quality	☒	Mandatory Findings of Significance
☒	Land Use and Planning		

3.1 AESTHETICS, LIGHT AND GLARE

Would the proposal:	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state or county designated scenic highway or county designated scenic road?	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings which are open to public view?	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒

3.1.1 Environmental Setting

The visual character of the Project vicinity is a combination of natural and built environments. In recent years, the agricultural landscape near the City has been transitioning from predominantly ranchlands to an increasing number of vineyards and related winery and residential development. Topography varies from relatively flat low-lying flood plain areas to rolling hills to steeply sloping foothills of the Santa Lucia Range. On both sides of the Salinas River the terrain varies from gently rolling hills with oak savanna and open grassland (from San

Miguel to Atascadero). The proposed WTP site is currently developed with water production wells enclosed by small buildings. The Salinas River corridor is the predominant visual element along the pipeline route. The proposed pipeline route west of the Salinas River is currently utilized for dry farming. East of the Salinas River, the proposed pipeline route currently exists as an undeveloped right-of-way adjacent to a residential neighborhood. The proposed Project is only minimally visible from southbound Highway 101, Highway 46 East, and Santa Ysabel Road. Views of the Project Site from public roads are mostly obstructed by trees or existing industrial buildings. A photo simulation of the proposed WTP is shown from Santa Ysabel Road looking West toward the WTP site is shown in Figure 3.1-1.

3.1.2 Regulatory Setting

The City regulates community design and aesthetics of buildings and public spaces through implementation of adopted General Plan policies and zoning regulations. The General Plan prescribes visual resource policies. The Zoning Ordinance, in some cases, requires development review of Projects. The Land Use Element, Open Space Element, and Conservation Element of the General Plan contains policy statements that serve as a framework for evaluating proposed Projects in regard to their potential to effect the atmosphere of the City. The proposed Project will require review for aesthetic considerations by the City Planning Commission.

3.1.3 Answers to Checklist Questions

Questions A and B:

The proposed Project would not have a significant impact on a scenic vista or view corridor. The site does not provide a vantage point to a scenic vista, nor are there any rock outcroppings, or historic buildings at the site. The proposed Project would consist of an underground pipeline and trenches placed in existing ROWs and the proposed WTP site. Short-term changes in the visual character of the streets around the Project area would occur as a result of the placement and use of construction equipment; however, this impact would be temporary and minor, given the context of the surrounding urban environment.

Question C and D:

The Project Site is not readily visible from nearby public viewing areas. The proposed WTP site is currently developed for public facility uses. As the proposed pipeline route would be returned to pre-Project conditions, it would not significantly degrade the visual character of the site, or the surrounding area. Project Plans include an extensive landscaping plan which will reduce the visual impact of the WTP facility. Facility lighting would be required at the proposed WTP site. This is considered a significant, but mitigable, impact.

Source: Wallace Group

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PHOTO-SIMULATION OF WTP SITE

FIGURE 3.1-1

3.1.4 Finding

The following mitigation measure will be required to reduce potential night-time lighting from impacting adjacent natural areas and to reduce visibility of the Project:

Mitigation Measure AES-1: An exterior lighting plan shall be developed, which shall include the height, location, and intensity of all exterior lighting. All light poles, fixtures, and hoods shall be dark (non-reflective) colored. Lighting shall be designed to eliminate any off site glare. All exterior site lights shall utilize full cut-off, "hooded" lighting fixtures to prevent offsite light spillage and glare.

3.2 AGRICULTURAL RESOURCES

Would the proposal result in impacts to:	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant Impact
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 or if the area is not designated on the Important Farmland Series Maps, would it convert prime agricultural land as defined in Section 51201(C) of the Govt. Code to non-agricultural use?	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒
c) 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 otherwise adversely affect agricultural resources or operations?	☐	☐	☒

3.2.1 Answers to Checklist Questions

Questions A though C:

The proposed Project will not have a significant impact to agricultural resources. Activities are proposed within soils considered prime or of statewide importance but these would only be temporary and occur along the edge of the designated Prime Farmland or Farmland of Statewide Importance (Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program 1998). After the completion of Project construction activities, the prime agricultural lands will be restored to pre-construction conditions. Once the pipeline is installed farming can resume as normal due to the depth of the pipe placement.

As the Project is proposed it should not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) or conflict with existing zoning for

agricultural use. No land within the Project Site is under a Williamson Act contract. No significant impact to agricultural resources will occur.

The Project should not involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use. There would be no significant impact to agricultural resources resulting from the proposed Project.

3.2.2 Finding

No mitigation is required.

3.3 AIR QUALITY

Would the proposal:	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or Projected air quality violation?	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐
d) Substantially alter air movement, moisture, or temperature, or cause any substantial change in climate?	☐	☐	☒
e) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒
f) Create objectionable odors affecting a substantial number of people?	☐	☐	☒

3.3.1 Environmental Setting

The Project site is located in the South Central Coast Air Basin (SCCAB), which includes San Luis Obispo, Ventura, and Santa Barbara Counties, and is under the jurisdiction of the San Luis Obispo County Air Pollution Control District (APCD). In January 2004, the San Luis Obispo County portion of the SCCAB was designated as an attainment area for the State 1-hour ozone standard (0.09 ppm). However, in 2006, attainment designations became based on the 8-hour State ozone standard (0.007 ppm) and the San Luis Obispo portion of the SCCAB was considered a non-attainment area. The area is also designated a non-attainment area for suspended particulate matter less than 10 microns in diameter (PM_{10}). Maximum concentrations of other criteria pollutants are currently within Federal and State standards.

3.3.2 Existing Conditions

Air quality in San Luis Obispo County (County) is currently monitored at eight public agency and private sector monitoring stations located throughout the County. The nearest air quality monitoring station to the Project site is on Santa Fe Avenue in the City. This station measures ozone and PM_{10}. Table 3.3-1 summarizes the available annual air quality data.

Table 3.3-1. Ambient Air Quality Data at the Paso Robles Monitoring Station

Pollutant	2004	2005	2006
Ozone			
Worst hour, ppm	0.080	0.081	0.088
Number of days of State exceedances (>0.09 ppm)	0	1	0
Number of days of Federal exceedances (>0.012 ppm)	0	1	0
PM10 (mg/m3)			
Worst 24 hours, ppm - Federal	42.0	45.0	59.0
Worst 24 hours, ppm - State	43.0	47.0	62.0
Number of State exceedances (>50 mg/m3)	0	0	1
Number of Federal exceedances (>150 mg/m3)	0	0	0

Source: California Air Resources Board, 2008

High ozone levels in San Luis Obispo County have occasionally been traced to air pollutants transported from other air basins, such as the South Coast Air Basin, the San Francisco Bay Area, and the San Joaquin Valley. The frequency with which long-range transport of pollutants affects local air quality has not been definitively established. However, most exceedances of the State ozone standard measured in the County are the result of local emissions and adverse meteorological conditions.

3.3.3 Air Pollutant Sources

The federal and state governments have established ambient air quality standards for six criteria pollutants: O_3 (Ozone), CO (Carbon Monoxide), NO_2 (nitrogen dioxide), SO_2 (sulfur dioxide), PM_{10} (particulate matter 10 microns and smaller), and Pb (lead). O_3 and PM_{10} are generally considered regional pollutants because these pollutants or their precursors affect air quality on a regional scale. Pollutants, such as CO, NO_2, SO_2, and Pb, are considered to be local pollutants that tend to accumulate in the air locally. PM_{10} is considered both a localized

pollutant and a regional pollutant. As the County is designated as non-attainment for O_3 and PM_{10}, these pollutants are of particular concern.

3.3.3.1 Ozone

O_3 is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections, and can cause substantial damage to vegetation and other materials. O_3 is a severe eye, nose, and throat irritant. It also attacks synthetic rubber, textiles, plants, and other materials. O_3 causes extensive damage to plants by leaf discoloration and cell damage.

O_3 is not emitted directly into the air, but is formed by a photochemical reaction in the atmosphere. O_3 precursors - reactive organic gases (ROG) and oxides of nitrogen (NO_x)—react in the atmosphere in the presence of sunlight to form O_3. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, O_3 is primarily a summer air pollution problem. The O_3 precursors ROG and NO_x are emitted by mobile sources and by stationary combustion equipment.

State standards for O_3 have been set for a 1-hour averaging time, whereas federal standards have been set for both a 1-hour averaging time and an 8-hour averaging time. The state 1-hour O_3 standard is 0.09 parts per million (ppm) (180 micrograms per cubic meter (mg/m3)), not to be exceeded. The federal 1-hour O_3 standard is 0.12 ppm (235 mg/m3), and the 8-hour O_3 standard is 0.08 ppm (157 mg/m3), not to be exceeded more than three times in any 3-year period (California Air Resources Board).

3.3.3.2 Inhalable Particulate Matter

Particulates can damage human health and retard plant growth. Health concerns associated with suspended particulate matter focus on those particles small enough to reach the lungs when inhaled. Particulates also reduce visibility and corrode materials.

The federal and state ambient air quality standard for particulate matter applies to two classes of particulates: $PM_{2.5}$ and PM_{10}.

The state PM_{10} standards are 50 mg/m^3 as a 24-hour average and 20 mg/m^3 as an annual geometric mean. The state $PM_{2.5}$ standards are 50 mg/m^3 as a 24-hour average and 12 mg/m^3 as an annual geometric mean and the federal PM_{10} standards are 150 mg/m^3 as a 24-hour average and 50 mg/m^3 as an annual arithmetic mean. The federal $PM_{2.5}$ standards are 15 mg/m^3 for the annual average and 65 mg/m^3 for the 24-hour average (California Air Resources Board).

3.3.4 Regulatory Setting

3.3.4.1 Federal

The Federal Clean Air Act (CAA), published in 1970 and amended twice thereafter (including the 1990 amendments), establishes the framework for modern air pollution control. The act directs the Environmental Protection Agency (EPA) to establish ambient air standards for six pollutants: O_3, CO, Pb, NO_2, PM, and SO_2. The standards are divided into primary and

secondary standards: the former to protect human health within an adequate margin of safety, and the latter to protect environmental values, such as plant and animal life.

The primary legislation that governs federal air quality regulations is the CAA Amendments of 1990, which delegates primary responsibility for clean air to the EPA. The EPA develops rules and regulations to preserve and improve air quality, as well as delegating specific responsibilities to state and local agencies.

The EPA has established National Ambient Air Quality Standards (NAAQS) for criteria pollutants, which include CO, NO_2, SO_2, O_3, PM, and Pb.

3.3.4.2 State of California

Responsibility for achieving California's standards, which are more stringent than federal standards, is placed on the California Air Resources Board (CARB) and local air pollution control districts. These standards are to be achieved through district-level air quality management plans that will be incorporated into the State Implementation Plan (SIP). In California, the EPA has delegated authority to prepare SIPs to CARB, which, in turn, has delegated that authority to individual air districts.

CARB has traditionally established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving SIPs.

Responsibilities of air districts include overseeing stationary source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality–related sections of environmental documents required by CEQA.

The California Clean Air Act of 1988 (CCAA) substantially added to the authority and responsibilities of air districts. The CCAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement traffic control measures (TCMs). The CCAA focuses on attainment of the California Ambient Air Quality Standards (CAAQS), which, for certain pollutants and averaging periods, are more stringent than the comparable federal standards.

The CCAA requires designation of attainment and nonattainment areas with respect to state ambient air quality standards. The CCAA also requires that local and regional air districts expeditiously prepare and adopt an air quality attainment plan if the district violates state air quality standards for CO, SO_2, NO_2, or O_3. These clean air plans are specifically designed to attain these standards and must be designed to achieve an annual 5% reduction in district-wide emissions of each nonattainment pollutant or its precursors. No locally prepared attainment plans are required for areas that violate the state PM_{10} standards.

The CCAA requires that the CAAQS be met as expeditiously as practicable but, unlike the federal CAA, does not set precise attainment deadlines. Instead, the Act established

increasingly stringent requirements for areas that will require more time to achieve the standards.

The CCAA emphasizes the control of "indirect and area-wide sources" of air pollutant emissions. It gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and to establish TCMs. The CCAA does not define indirect and area-wide sources. However, Section 110 of the federal CAA defines an indirect source as:

> A facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution. Such terms include parking lots, parking garages, and other facilities subject to any measure for management of parking supply.

TCMs are defined in the CCAA as "any strategy to reduce trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing vehicle emissions." Recently enacted amendments to the CCAA impose additional requirements designed to ensure an improvement in air quality within the next five years. More specifically, local districts with moderate air pollution that did not achieve "transitional nonattainment" status by December 31, 1997, must implement the more stringent measures applicable to districts with serious air pollution.

3.3.4.3. Greenhouse Gas Emissions and Global Climate Change.

Global climate change (GCC) is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. Although the issue of GCC is a widely accepted theory, the extent of the change from anthropogenic (human activity related) sources remains in debate.

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG), analogous to the way in which a greenhouse retains heat. Common GHG include water vapor, carbon dioxide (CO_2), methane, nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. GHG are emitted by both natural processes and human activities. The accumulation of GHG in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHG, the earth's surface would be about 34 degrees Centigrade (°C) cooler. However, it is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006 and the Governor signed it into law. AB 32 focuses on reducing ~~greenhouse gas (GHG)~~GHG emissions in California. ~~GHG as defined under AB 32 include: water vapor, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.~~ AB 32 requires the ARB, the State agency charged with regulating statewide air quality, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020. In addition, two State-level Executive Orders have been enacted by the Governor (Executive Order S-3-05, signed June 1, 2005, and Executive Order S-01-07, signed January 18, 2007) that mandate reductions in GHG emissions.

In response to AB 32 and because of the lack of guidance on CEQA analysis from the state, the Association of Environmental Professionals published a white paper summarizing the legal background, legislative history and alternative approaches to addressing GHG emissions have been established. However, no thresholds of significance for GHG or global climate change have been adopted.

Operation of the proposed Project would involve the combustion of ~~diesel fuel and gasoline~~motor vehicle fuels and increased electrical demand ~~and~~ which would generate GHG emissions. Due to the lack of significance thresholds, a determination of the Project's impact on regional, statewide, or continental resources of concern affected by global climate change (i.e., regional water supply and hydrology, plant and wildlife species range expansions or contractions, Sierra snowpack, extent of polar ice caps, sea level rise, etc.) would be speculative. Using emission factors provided in "California's Greenhouse Gas Inventory published by the California Air Resources Board, the Project's operational GHG emissions were calculated and have been included in Table 3.3-2 for informational purposes.

Table 3.3-2. Operational GHG Emissions Inventory

GHG	Lbs/Day	Metric Tons Per Year
CO_2	4,650	439
CH_4 (Methane)	0.334	0.0145
N_2O (Nitrous oxide)	0.0073	0.0080
CO_2e	4680	442

Source: California's Greenhouse Gas Inventory, http://www.arb.ca.gov/cc/inventory/doc/doc_index.php

CO_2e = Carbon Dioxide Equivalent - To calculate CO2 equivalent; multiply N20 by 310.85 and CH4 by 21.01

To reduce GHG emissions, the City plans to landscape the WTP site to reduce energy consumption due to daily heating/cooling needs, install water efficient irrigation systems, and to exceed Title 24 energy efficiency requirements. Water conservation is mandatory throughout the City through its existing water conservation programs. Additionally, the City will limit engine idling for trucks parked at the WTP site during operation of the proposed project.

3.3.4.3 San Luis Obispo Air Pollution Control District

The APCD shares responsibility with the ARB for ensuring that all State and Federal ambient air quality standards are attained within the County. The APCD has jurisdiction under the California Health and Safety Code to develop emission standards for the County, issue air pollution permits, and require emission controls for stationary sources in the County. The APCD is also responsible for the attainment of State and Federal air quality standards in the County.

3.3.5 Thresholds of Significance

In accordance with the CEQA Guidelines and for the purposes of this analysis, the Project would be deemed to have a significant air quality impact if the Project:

- Conflicts with or obstructs the implementation of the applicable air quality plan or SIP;
- Results in emissions that would violate any ambient air quality standard or contribute substantially to an existing or Projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the region is considered non-attainment under any Federal or State ambient air quality standard;
- Exposes sensitive receptors to substantial toxic air contaminant pollutant concentrations; or,
- Creates objectionable odors affecting a substantial number of people.

Significance thresholds have been developed by the APCD and contained within the *CEQA Air Quality Handbook* (APCD, 2003). For the purposes of this analysis, Project emissions are considered potentially significant impacts if any of the following thresholds are exceeded:

Operational Impacts:

Reactive Organic Gases (ROG), NO_x, SO_2, PM_{10}	10 lbs/day
CO	50 lbs/day

The APCD considers impacts significant and requires more stringent environmental review for Projects exceeding 25 lbs/day of ROG, NO_x, SO_2 and PM_{10} emissions, or 550 lbs/day CO emissions.

Construction Impacts:

ROG and NO_x	185 lbs/day or 2.5 tons/quarter
PM_{10}	2.5 tons/quarter

GHG emissions thresholds have not been established at this time by either the State or the San Luis Obispo County APCD and will therefore will not be applied to the Project. Information regarding Project related GHG emissions are being presented for informational purposes at this time.

3.3.6 Impact Analysis

This section presents emissions estimates completed for the Project. Using the series of assumptions shown below, the estimated emission rates for criteria pollutants were determined as shown in Table 3.3-~~2~~23.

- Maximum 250 construction days/year;
- 10 working hours/day;
- Fifteen acres of ground disturbance (WTP site and pipeline alignment);
- Emissions were estimated using the equipment loading for a permitted construction Project with fifteen acres of ground disturbance;
- Assumed a total of 0.75 acre would be paved (a conservative estimate).
- 3.0 percent by volume VOC was used to determine the asphalt emissions as it is the maximum VOC content allowed in San Luis Obispo County (San Luis Obispo APCD 1997).

Table 3.3-32. Emission Rate Estimates

Phase	NO_x		ROC		PM_{10}	
	Pounds/ Day	Tons/Qtr	Pounds/ Day	Tons/Qtr	Pounds/ Day	Tons/Qtr
WTP and Pipeline	749.4	9.3	67.4	1.0	44.4	0.5
HDD Activities	270.9	1.0	25.7	0.1	15.4	0.1
TOTAL	1,020.3	10.3	93.1	1.1	59.8	0.6

Notes:

Total number of construction days will last approximately 250 work days (4 quarters).

Emissions estimates represent worst-case scenario without mitigation.

3.3.7 Answers to Checklist Questions

Questions A though C:

Project construction activities would result in short-term ozone precursor emissions from heavy equipment and motor vehicles, as well as fugitive dust (PM_{10}) emissions that could affect local air quality. NOx emissions (a precursor to O_3) would likely exceed the 185 lbs per day threshold. Unmitigated emissions of PM_{10} would be mitigated through implementation of mitigation measures as prescribed by the APCD (see Mitigation Measure AQ-1).

The nature of the Project's operation would not significantly contribute to area pollution levels. The Project includes installation of a natural gas-powered emergency generator which would be tested only periodically. The emissions of the natural gas generator are anticipated to be minimal and less than significant.

Question D:

None of the Project components would result in a substantial alteration of air movement, moisture, or temperature, or cause any change in local or regional climate conditions.

Question E:

During Project construction, PM_{10} and $PM_{2.5}$ concentrations could be increased. The County is designated as non-attainment for PM_{10}. The Paso Robles monitoring station recorded two PM_{10} exceedances in 2001 and one exceedance in 2003. Since then, there was one exceedance recorded in 2006. No exceedances were reported for the federal standard for the years 2004 through 2006 (ARB, 2007). Although emissions of PM_{10} are expected to be below applicable thresholds, the City would be required to implement standard mitigations as described in Mitigation Measure AQ-1(b) to ensure that impacts would be less than significant.

Question F:

The Project would not generate substantial or long-term objectionable odors that could adversely affect sensitive receptors, such as residential areas, churches, and or schools.

3.3.8 Mitigation

Mitigation Measure AQ -1(a)a - Equipment Emission Control Measures. According to ~~Rule 402 of the APCD Handbook of Rules and Regulations~~ the APCD CEQA Handbook, an Authority to Construct permit shall require the use of Best Available Control Technology (BACT) where emissions of subject air contaminants would be ~~25 pounds per day or more~~185 pounds per day or 2.5 tons per quarter (which is applicable to NOx). Prior to construction, a Dust and Emissions Reduction and Monitoring Plan shall be developed by the contractor, approved by the APCD and fully implemented. The Plan shall specify the emissions control measures to be implemented on each emission source, the expected reduction for each criteria pollutant, the period the emissions control measures are to be in place, and a quarterly summary of the emissions reductions. The summary shall include sufficient information for the APCD to verify the emissions reductions have occurred. Potential emission reduction measures shall include, but not be limited to, a combination of the following:

- All mobile construction equipment shall use engines certified by the EPA and ARB to meet Tier 2 emission standards as listed in Title 40 Part 89 of the Code of Federal Regulations and employ Currently Verified Technologies per the ARB;
- All portable equipment shall be registered under the Statewide Portable Equipment Registration Program and implement all emissions and reporting requirements (if a piece of equipment is 50 horsepower or greater, and is not registered under the ARB state program, it will need an APCD permit);
- Installation of diesel reduction catalyst/catalyzed diesel particulate filter system (25 to 40 percent NOx reduction); ~~and,~~
- Use of PuriNOx fuel by Lubrizol (15 percent NOx reduction);

- Maintain all construction equipment in proper tune according to manufacturers' specifications;
- Fuel all off-road and portable diesel powered equipment with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
- Maximize, to the extent feasible, the use of diesel construction equipment meeting ARB's Tier III equipment;
- Maximize, to the extent feasible, the use of on-road heavy-duty equipment and trucks that meet the ARB's Tier III certification standard for on-road heavy-duty diesel engines;
- All on and off-road diesel equipment shall not be allowed to idle for more than 3 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 3 minute idling limit;
- Queuing of haul trucks should be in a location to minimize impact to neighboring residents; and
- Electrification of dredging or pumping equipment unless proven infeasible.
- Implement energy conserving measures at the WTP site, including water-efficient landscaping, planting of trees to provide shade and reduce carbon dioxide levels, and design on-site buildings to exceed Title 24 energy efficiency standards by 20 percent.

Mitigation Measure AQ-1(b) - Dust Control Measures. Dust generated by construction activities shall be kept to a minimum by full implementation of the following measures.

- During clearing, grading, earth moving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems shall be used to prevent dust from leaving the site and to create a crust after each day's activities cease;
- During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas in the morning and after work is completed for the day. Watering frequency may need to be increased whenever wind exceeds 15 miles per hour;
- Stockpiled earth material shall be sprayed or covered as needed to minimize dust generation;
- During construction, the amount of disturbed area shall be minimized, and onsite vehicle speeds should be reduced to 15 mph or less;
- Consistent with the SWPPP, all exposed ground areas that are planned to be reworked at dates more than one month after initial grading during the rainy season (i.e., Oct. 15 to April 15) shall be sown with a fast-germinating native grass seed and watered until vegetation is established;

- After clearing, grading, earth moving, or excavation is completed, the entire area of disturbed soil shall be treated immediately by watering or revegetating or spreading soil binders to minimize dust generation until the area is paved or otherwise compacted so that dust generation is minimized;
- Grading and scraping operations shall be suspended when wind speeds exceed 20 mph (one hour average);
- Rumble pads (minor road obstructions designed to dislodge accumulated earth material from trucks) shall be installed and maintained at all construction entrances;
- All roadways associated with construction activities shall be paved or utilize some other technique to control dust (i.e. water or APCD-approved soil stabilizer); ~~and,~~
- The contractor or builder shall designate a person or person to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to land use clearance for map recordation and finished grading of the area; and
- Dust control monitoring shall be conducted to ensure that dust emissions do not exceed 20% opacity as measured at the property boundary. Additionally, the name and telephone number of a designated person or persons to monitor the dust control program shall be provided to the APCD prior to land use clearance for grading of the area.~~.~~

3.3.9 Finding

With the incorporation of mitigation, impacts to air quality would be less than significant.

3.4 BIOLOGICAL RESOURCES

Would the Project:

Would the proposal:	Potentially Significant	Potentially Significant Unless Mitigated	Less Than Significant Impact
a) Have a substantial adverse effect, either directly or indirectly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐
b) Have a substantial adverse effect, on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐
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 filling, hydrological interruption, or other means?	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒

Biological resources of the Project site were evaluated by Padre Associates, Inc. (Padre), based on the review of available documents and literature, and regulatory agency correspondence letters and databases:

3.4.1 Environmental Setting

The City of Paso Robles is lies within the Coastal Ranges Geomorphic Province of California, an area of mountain ranges with intervening valleys. The topography varies from relatively flat, low-lying flood plain areas to rolling hills and the steeply sloping foothills of the Santa Lucia Range. The City lies within the Salinas River watershed. The upper watershed begins at the headwaters southeast of Santa Margarita Lake and extends to the town of Bradley, just inside Monterey County. The Salinas River is the primary hydrologic feature in Paso Robles. Although substantial subsurface flows occur throughout the year, the river is virtually dry on the surface from July through September with peak flows typically occurring in the months of January to March.

The Biological Study Area (BSA) is bounded to the west by the Union Pacific Railroad (UPRR) and Highway 101 and to the east by the Salinas River. The Salinas River is a multi-

braided system that contains sandbars and gravelly areas in between patches of riparian or marsh vegetation. The east side of the Salinas River consists of fallowed agricultural fields and residential home-sites. An unnamed, ephemeral blue-line tributary lies directly south of the Project Site and intersects with the Salinas River. Along the banks of both the Salinas River and the unnamed tributary consist of dense riparian vegetation. North of the WTP, the land has historically been used for agriculture and is currently fallow.

The portion of the Project Site where the WTP facilities will be constructed is the current location for the City of Paso Robles Thunderbird Well Field. The perimeter of this area is protected with chain-linked and barbed-wire fencing. A paved access road to the west of the Well Field connects Ramada Drive to a locked gate accessing the facilities. The interior of the fencing consists of five (5) small buildings with gravel access roads to each. The vegetation within the Well Field is not currently maintained, or grazed by cattle.

3.4.2 Regulatory Setting

Waters and Wetlands. The Corps has jurisdiction over waters of the United States (U.S.). The limit of jurisdiction in non-tidal waters extends to the ordinary high water mark and includes all adjacent wetlands. Waters of the U.S. are defined as:

> "All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; including all interstate waters including interstate wetlands, all other waters such as intrastate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce."

The Corps and U.S. Environmental Protection Agency define wetlands as:

"those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Section 404 of the Clean Water Act of 1977 prohibits discharge of dredged or fill material into Waters of the U.S. without an “Individual Permit” from the Corps, or authorization under one or more existing “Nationwide Permits.” Areas in the vicinity of the Project site which qualify as jurisdictional waters of the U.S. and/or federal wetlands include the river bed and bank of the Salinas River and associated riparian vegetation.

Section 7 or Section 10 of the United States Endangered Species Act. The Federal Endangered Species Act (FESA) provides legislation to protect federally-listed plant and wildlife species. Impacts to listed species resulting from the implementation of a Project would require the responsible agency to consult the USFWS. Section 7 of the FESA requires that all federal agencies must, in consultation with the USFWS or NMFS, ensure that the agency’s actions do not jeopardize the continued existence of a listed species, or destroy or adversely modify the listed species’ “critical habitat.”

Section 10 consists of the process by which take permits are issued by USFWS/NMFS for incidental take to an otherwise lawful activity (non-Federal). Formal consultations must take place with the USFWS pursuant to Section 10(a)(1)(B), with the USFWS then making a determination as to the extent of impact to a particular species. If the USFWS determines that impacts to a species would likely occur, alternatives and measure to avoid or reduce impacts must be identified through preparation of a Habitat Conservation Plan (HCP), prior to issuance of the take permit.

State of California Endangered Species Act. The State of California Endangered Species Act (CESA) ensures legal protection for plants listed as rare or endangered and species of wildlife formally listed as endangered or threatened. The State also lists "Special Concern" species based on limited distribution, declining populations, diminishing habitat, or unusual scientific recreational or educational value. Under State law, the CDFG is empowered to review Projects for their potential to impact state-listed species and California Special Concern species, and their habitats. Impacts to the state-listed species would be evaluated and identification of mitigation measures would likely be required.

California Department of Fish and Game Code, Chapter 6. This code governs state-designated wetlands, including riparian and stream habitat, and mandates that mitigation be implemented to replace wetland extent and value lost to development. Sections 1600-1616 of the California Fish and Game Code regulates activities that would alter the flow, bed, channel or bank of streams and lakes. Activities that affect these areas, as well as associated riparian habitats, would require a Streambed Alteration Agreement from the California Department of Fish and Game (CDFG).

State of California Regional Water Quality Control Board – Basin Plan. The Regional Water Quality Control Board (RWQCB) Basin Plan provides management guidelines for maintaining water quality and associated beneficial uses of stream and rivers within the central coast region of California. General water quality objectives are set forth to facilitate the maintenance of optimum habitat for various aquatic species.

City of El Paso de Robles – General Plan. The City of El Paso De Robles General Plan incorporates elements for the purposes of addressing environmental issues and to provide protections for sensitive resources, while allowing for growth and development. Projects occurring within the City of El Paso de Robles would be in compliance with the guidelines and policies set forth in this document.

3.4.3 Plant Communities and Wildlife Habitats

A wildlife resources survey was conducted on April 16, 2008 by Padre Biologist, Ms. Thea Benson between the hours of 6:30 am to 3:30 pm within the BSA. The weather during this time was sunny and warm, with little to no wind. The wildlife resources survey focused on special-status wildlife species and sensitive habitats which have the potential to occur within the vicinity of the Project Site and/or surrounding areas. Wildlife species were documented by walking paths of opportunity through existing habitat types and recording species observed by visual observation using 10X50 binoculars, indirect signs (tracks, scat, skeletal remains, burrows, etc.) and/or auditory cues (calls and songs).

A spring botanical survey was also conducted on April 16, 2008 to determine the presence/absence of special-status plants with the potential to occur in the Project Site based on the presence of suitable habitat. Padre Biologists Ms. Jessica Peak and Ms. Chris Santala walked transects of opportunity through the existing habitat types and recorded all identifiable plant species present. Plant specimens that were not positively identified in the field were further examined using a dissecting microscope and appropriate botanical keys, including *The Jepson Manual* (Hickman, 1993). This survey also included habitat characterization and identification of jurisdictional wetlands within and adjacent to the Salinas River.

Lastly, Padre Biologists completed a Tree Inventory which included all large trees over 4-inches in Diameter-at-Breast-Height (DBH) within 50-feet of proposed Project facilities and pipeline alignments. The DBH and north, south, east and west canopies and Critical-Root-Zones (CRZ) were measured from the base of the trunk to the drip-line (See Figures 3 and 4 – Plant Communities Map/Tree Inventory, Appendix A.). These habitats and those species of wildlife which would be expected to occur in association within the various habitats identified in the area are described in further detail:

Sensitive Habitats of Concern. Based on species composition and life form, the vegetation of the BSA can be divided into six classifications. These classifications include Mixed Riparian Forest, Coyote Brush Series, Riverbed, Ruderal, Agricultural, and Developed. Plant Communities occurring within the BSA are illustrated on Figures 3 and 4 and discussed below in further detail. No wetlands adjacent to the Salinas River were identified within Project limits.

Mixed Riparian Forest (RF). This community is dominated by Fremont cottonwood (*Populus fremontii*), and arroyo willow (*Salix lasiolepis*), with frequent occurrences of valley oak (*Quercus lobata*), box elder (*Acer negundo* var. *californicum*), coast live oak (*Quercus agrifolia*), and shining willow (*Salix lucida* ssp. *lasiandra*). Understory consists of coyote brush (*Baccharis pilularis* var. *consaguinea*), poison oak (*Toxicodendron diversilobum*), California coffee-berry (*Rhamnus californica*), blue elderberry (*Sambucus mexicana*), and mule fat (*Baccharis salicifolia*). This habitat occurs adjacent to the active river channel and along the unnamed tributary located south of the proposed WTP (see Figure 3 – Plant Community and Tree Inventory Map – South, in Appendix A).

Coyote Brush Series (CBS). This community is dominated by coyote brush with occurrences of California sagebrush (*Artemisia californica*). In addition, ruderal species such as black mustard (*Brassica nigra*), and rip-gut brome (*Bromus diandrus*) were prevalent within the coyote brush habitat. This community is present at the northern end of the proposed pipeline alignment adjacent to and west of the proposed HDD staging area.

Riverbed (RIV). The active channel/riverbed of the Salinas River is comprised of a series of alluvial channels and associated sandbars. Vegetation within the riverbed consists primarily of mule fat with scattered occurrences of arroyo willow and coyote brush.

Ruderal (RU). Ruderal habitat is a term used to describe those areas that have been disturbed by past land-use practices and/or recent ground disturbance. These areas show evidence of previous disturbance from agriculture, grazing, development, and maintenance

activities (i.e., mowing). For the purposes of this Project, ruderal also represents those areas which are routinely maintained within the Project area. Within the BSA, ruderal habitat occurs along the proposed pipeline alignment and WTP. This cover type consists almost entirely of non-native, annual grasses and disturbance-adapted weedy species including rip-gut brome, red brome (*Bromus madritensis* ssp. *rubens*), wild oat (*Avena fatua*), hare barley (*Hordeum murinum* ssp*. leporinum*), redstem filaree (*Erodium cicutarium*), black mustard, poison hemlock (*Conium maculatum*), fiddleneck (*Amsinkia menziesii* var. *intermedia*), horehound (*Marrubium vulgare*), and milk thistle (*Silybum marianum*).

Agricultural (AG). Agricultural areas within the BSA are present along the proposed pipeline alignment between the ruderal habitat that occurs along the railroad tracks and the mixed riparian forest habitat adjacent to the Salinas River. All of the agricultural areas within the BSA were fallow during the April 16, 2008 field survey.

Developed (DEV). Several large developed areas, primarily residential, exist within the BSA east of the Salinas River. These areas contain many of the ornamental/landscape species and ruderal species listed above.

3.4.4 Regional Plant Species of Concern.

Plant species of concern are either listed as endangered or threatened under the Federal or California Endangered Species Acts, considered rare under the California Native Plant Protection Act, or considered rare (but not legally listed) by resources agencies, professional organizations, and the scientific community. For the purposes of this Report, plant species of concern are defined in Table 1 (See Appendix A).

The literature search conducted for this study indicated that 24 special-status plant species and one sensitive plant community have been recorded within the following nine (9) USGS quadrangles: Paso Robles, Adelaida, Bradley, San Miguel, Ranchito Canyon, Estrella, Creston, Templeton, and York Mountain. Table 2 (See Appendix A) lists these species, their current status, habitat description, blooming period, the presence or absence of suitable habitat within the BSA, and rationale as to why the presence/absence determination was made.

Because the plant species list presented in Table 2 (See Appendix A) is regional, an analysis of the range and habitat preferences of those species was conducted to identify special-status species that have the potential to occur within the BSA.

Based on the existing habitat, known elevation range, known occurrence locations, and soils within the BSA, Padre has determined that the following three plant species have the potential, however low, to occur within the Project Site:

- *Aristocapsa insignis* (Indian valley spineflower)
- *Malacothamnus davidsonii* (Davidson's bush mallow)
- *Symphyotrichum defoliatum* (San Bernardino aster)

None of the special-status species listed above were observed within the BSA during the field survey conducted on April 16, 2008.

Indian valley spineflower (*Aristocapa insignis*). Indian valley spineflower, a CNPS List 1B.2 species, is an annual, spreading herb in the buckwheat family (Polygonaceae). It is typically found in sandy soils and cismontane and foothill woodlands and is known to occur in the inner south coast ranges of Monterey and San Luis Obispo Counties. This species generally blooms from May through September. The nearest known location of this species is in San Miguel (CNDDB 2008), approximately 11 miles from the Project Site. The presence of sandy soils increase the likelihood for Indian valley spineflower to occur along the Salinas River, however due to the lack of cismontane and foothill woodlands within the Project Site, the potential for Indian valley spineflower to occur on-site is considered unlikely. No Indian valley spineflower were identified during the field survey on April 16, 2008.

Davidson's bush mallow (*Malacothamnus davidsonii*). Davidson's bush mallow, a CNPS List 1B.2 species, is a deciduous shrub in the Mallow family (Malvaceae). It is typically found in riparian woodland, as well as coastal scrub and chaparral. Its range has been decreased to restricted occurrences in Los Angeles, San Mateo, Santa Clara and San Luis Obispo Counties. This species generally blooms from June through January. The nearest known location of this species is in Camp Roberts adjacent to the San Antonio River (CNDDB, 2008), approximately 17 miles northwest of the Project Site. Davison's bush mallow may occur in habitat adjacent to the Project Site; however during field surveys the species was not identified.

San Bernardino aster (*Symphyotrichum defoliatum*). San Bernardino aster, a CNPS List 1B.2 species, is a rhizomatous herb in the sunflower family (Asteraceae). It is typically found in cismontane woodlands, coastal scrub, coniferous forests, meadows, seeps, marshes, and valley and foothill grassland habitats. It also occurs near ditches, streams and springs that occur in adjacent areas to the Project Site. This species generally bloom from July to November. The nearest known location of this species occurs north of Creston, approximately 10 miles southeast from the Project Site. No San Bernardino aster plants were identified during field surveys conducted on April 16, 2008.

3.4.5 Special-Status Species

Excluding isolated areas of the Project Site disturbed by the existing Thunderbird Well Field and agriculture, the region supports wildlife habitat along the adjacent Salinas River and the unnamed tributary adjacent to the Well Field. Wildlife habitat value within the existing well field is considered low to moderate, due to the past construction activities and dominance of disturbance-tolerant, non-native vegetation (i.e., annual grasses, etc.). However, considering the relatively good quality of habitat within surrounding areas, a variety of wildlife species are expected to occur on-site. In addition, as determined by review of site records from other environmental documents and range maps including Zeiner et al, (1998, 1990a, 1990b) and Sibley (2003), the Project Site has the potential to support a variety of special-status species.

The Project region topography varies from relatively flat low-lying flood plain areas to rolling hills and steeply sloping foothills of the Santa Lucia Range. On both sides of the Salinas River the terrain varies from gently rolling hills with oak savanna and open grassland. Regional and local wildlife movements are expected to be concentrated near topographic features that allow convenient passage, including drainages and ridgelines. The adjacent habitat along the

Salinas River is valuable to wildlife as well as aquatic species for cover, foraging, and migration corridors.

Vertebrate species observed include those seen or detected by track, scat, burrows and/or vocalization during the field survey conducted for this proposed Project. Complications in the quantitative assessment of terrestrial vertebrate (and terrestrial invertebrate) populations include:

- Many species may occur in the area only for short periods during migrations;
- Many species of amphibians and reptiles become inactive during one or more seasons; and,
- Seasonal or annual fluctuations in climate or weather patterns may confound observations.

Amphibians. Amphibians dependent upon the long-term availability of surface water, such as the California red-legged frog (*Rana aurora draytonii*), Pacific chorus frog (*Pseudacris regilla*) and American bullfrog (*Rana catesbeiana*) could occur throughout the Salinas River drainage. Additionally, the black-bellied slender salamander (*Batrachoseps nigriventris*) and ensatina (*Ensatina eschscholtzii*) are the more common amphibians known to inhabit riparian habitat of adjacent shaded slopes (Rindlaub & Collins, 1998). One amphibian, the western toad (*Bufo boreas*), was observed during the field survey.

Reptiles. Reptile species expected to occur within the BSA based on the presence of suitable habitat include western fence lizard (*Sceloporus occidentalis*), southern alligator lizard (*Elgaria multicarinata multicarinata*), southwestern pond turtle (*Clemmys marmorata pallida*), western rattlesnake (*Crotalus veridus*), California kingsnake (*Lampropeltis getulus*), gopher snake (*Pitophis catenifer*), valley garter snake (*Thamnophis sirtalis fitchi),* striped racer (*Maticophis lateralis*), and ring-neck snake (*Diadophis punctatus*). Two reptiles, the western fence lizard and an unknown garter snake species (*Thamnophis* spp.) were observed within the BSA, during the April 16, 2008 field survey.

Avifauna. The Project Site is located immediately adjacent to the Salinas River, which supports riparian vegetation utilized by a wide variety and a high concentration of migratory birds. Wildlife observations were conducted within the Project Site during mid April; therefore it is expected that migratory breeding birds would have been recorded.

Birds observed in the vicinity of the Project area in association with the riparian corridor included black phoebe (*Sayornis nigricans*), white-crowned sparrow (*Zonotrichia leucophrys*), western scrub jay (*Aphelocoma californica*), lesser goldfinch (*Carduelis psaltria*), northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), brewer's blackbird (*Euphagus cyanocephalus*), ash-throated flycatcher (*Myiarchus cinerascens*), Nuttal's woodpecker (*Picoides nuttallii*), orange-crowned warbler (*Vermivora celata*), Wilson's warbler (*Wilsonia pusilla*), California thrasher (*Toxostoma redivivum*), golden-crowned sparrow (*Zonotrichia atricapilla*), American robin (*Turdus migratorius*), red-shouldered hawk (*Buteo lineatus*), Bewick's wren (*Thryomanes bewickii*), American crow (*Corvus brachyrhynchos*), spotted towhee (*Pipilo maculatus*), black-headed grosbeak (*Pheucticus melanocephalus*), song

sparrow (*Melospiza melodia*), downy woodpecker (*Picoides pubescens*), sanderling (*Calidris alba*), tree swallow (*Tachycineta bicolor*), Anna's hummingbird (*Calypte anna*), yellow-rumped warbler (*Dendroica coronata*), flycatcher species (*Empidonax spp.),* northern flicker (*Colaptes auratus*), house wren (*Troglodytes aedon*), cliff swallow (*Petrochelidon pyrrhonota*), Vaux's swift (*Chaetura vauxi)*, Copper's hawk (*Accipiter cooperii*), and mallard (*Anas platyrhynchos*).

Birds observed in coast live oaks on the perimeter of the agriculture fields and within ruderal habitats included turkey vulture (*Cathartes aura*), common raven (*Corvus corax*), Eurasian collard dove (*Streptopelia decaocto*), bullock's oriole (*Icterus bullockii*), western kingbird (*Tyrannus verticalis*), red-tailed hawk (*Buteo jamaicensis*), white-breasted nuthatch (*Sitta carolinensis*), bushtit (*Psaltriparus minimus*), oak titmouse (*Baeolophus inornatus*), mourning dove (*Zenaida macroura*), acorn woodpecker (*Melanerpes formicivorus)*, house finch (*Carpodacus mexicanus*) and house sparrow.

Mammals. Mammals observed directly and/or detected through the presence of scat and tracks included, mule deer (*Odocoileus hemionus*), desert cottontail (*Sylvilagus audubonii*), western gray squirrel (*Sciurus griseus*) and California ground squirrel (*Spermophilus beecheyi*). Other common mammal species expected to occur within the BSA, based on the presence of suitable habitat, include opossum (*Didelphis virginiana*), deer mouse (*Peromyscus maniculatus*), broad-footed mole (*Scapanus latimanus*), Botta's pocket gopher (*Thomomys bottae*), California vole (*Microtus californicus*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), bobcat (*Lynx rufus*), mountain lion (*Felis concolor*), and common gray fox (*Urocyon cinereoargenteus*).

Fish. No fish were observed within the Salinas River during the April 16, 2008 field survey. The Salinas River is designated as critical habitat for south/central California coast steelhead (*Oncorhynchus mykiss*) in San Luis Obispo County (NMFS 2005). Steelhead may migrate through the Salinas River, but the habitat in the Salinas River near the Project area does not present the characteristics for suitable spawning nor rearing habitat. Therefore, if steelhead occur in the Salinas River adjacent to the Project area, they would be expected to occur sporadically during their migration period and when surface flow water is present. Other fish species expected to occur within the Salinas River include prickly sculpin (*Cottus asper*), mosquitofish (*Gambusia affinis*) sacramento pikeminnow (*Ptychocheilus grandis*) and speckled dace (*Rhinichthys osculus*).

3.4.6 Regional Wildlife Species of Concern.

Wildlife species of concern are defined in Table 3 (See Appendix A). The potential for these species to occur in the vicinity of the BSA was determined by a query of the CNDDB, and review of reported occurrences from other environmental documents, and communication with species experts. Table 4 (See Appendix A) lists wildlife species of concern that have been documented within the region of the BSA. Because the wildlife species list presented in Table 4 (See Appendix A) is regional, an analysis of the range and habitat preferences of those species was conducted to identify special-status wildlife species that have the potential to occur within the BSA.

Invertebrates

Atascadero June Beetle (Polyphylla nubile). The Atascadero June beetle is of the Family Scarabaeidae "Scarab Family", Order Coleoptera, and Genus Polyphylla, meaning "lined June beetles." Similar to all beetles in the Scarab Family, this species occurs in agriculture fields, grasslands and sandy areas (Hoffman, 2006). It is known to occur within San Luis Obispo County, as well as within the City of Paso Robles (CNDDB, 2008). The majority of their lifecycle occurs in a larval stage under the soil surface. They pupate into beetles to mate and lay eggs from the early summer months through June, once every 2 to 3 years (Sutherland, 2006). The CNDDB ranks the Atascadero June beetle as a G1 and S1. There is potential that Atascadero June beetle could occur in suitable habitat in the Project area. No June beetles were identified during field survey on April 16, 2008.

Fish

South-Central California Coast Steelhead (*Oncorhynchus mykiss irdeus*). The south-central California coast steelhead is federally-listed as threatened under the ESA. Steelhead trout are rainbow trout with an anadromous life history. Steelhead make spawning runs into rivers and small creeks flowing into the ocean. The south-central California coast steelhead encompasses all naturally-spawned steelhead populations below natural and manmade impassable barriers in streams from the Pajaro River (inclusive) to, but not including, the Santa Maria River (NMFS 2006). Therefore, the Project area is located within the distribution of the south-central California coast steelhead.

In general, adult steelhead return to rivers and creeks in the region from October to April. Spawning takes place in the rivers from December to April with most spawning activity occurring between January and March. Steelhead remain in freshwater for one to four years before they out-migrate into the open ocean during spring and early summer (Goals Project 2000). Juvenile steelhead can spend up to seven years in freshwater before moving downstream as smolts from March to May (Busby et al. 1996). Steelhead can spend up to three years in saltwater before returning to freshwater to spawn (Barnhardt 1986). Because juvenile steelhead remain in the creeks year-round, adequate flows, suitable water temperatures, and an abundant food supply are necessary throughout the year in order to sustain steelhead populations. The most critical period is in the summer and early fall when these conditions become limiting.

There are no CNDDB records of steelhead in the Project area and surrounding nine USGS quadrangles. However, the Salinas River is included as designated critical habitat for steelhead in San Luis Obispo County (NMFS 2005). Steelhead may migrate through the Salinas River, but the habitat in the Salinas River near the Project area does not present the characteristics for suitable spawning nor rearing habitat. Therefore, if steelhead occur in the Salinas River within the Project area, they would be expected to occur sporadically during their migration period.

Reptiles

Southwestern Pond Turtle (*Emys (=Clemmys) marmorata pallida*). The southwestern pond turtle is a California special concern species. It is an aquatic turtle inhabiting

streams, marshes, ponds, and irrigation ditches within woodland, grassland, and open forest communities. This species requires upland sites for nesting and over-wintering. Stream habitat must contain large, deep pool areas with moderate-to-good plant and debris cover, and rock and cobble substrates for escape retreats. Southwestern pond turtle have been documented in Salinas River Tributaries in the Paso Robles quadrangle in 2006 (CNDDB, 2008), is expected to occur within the Salinas River corridor. No southwestern pond turtles were identified during the field survey on April 16, 2008.

Coast Horned Lizard (*Phrynosoma coronatum*). The Coast Horned lizard is currently a California Special Concern species. It inhabits open areas of sandy soil and low vegetation in valleys and foothills throughout northern California to Baja California. It is found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Often found in sandy washes and along dirt roads. CNDDB has documentation of a sighting in April of 2007, 2 miles north of Lake Nacimiento, approximately 17.9 miles northeast of the Project Site. There is potential that coast horned lizard could occur in suitable habitat in the Project area. No coast horned lizards were identified during field survey on April 16, 2008.

Amphibians

California Red-Legged Frog (*Rana aurora draytonii*). The California red-legged frog (CRLF) is listed as threatened under the ESA and is a California species of special concern. The historical range of the CRLF extended on the coast from the vicinity of Point Reyes National Seashore and inland from the vicinity of Redding southward to northwestern Baja California, Mexico (USFWS 2007). The largest extent of currently occupied habitat is found in Monterey, San Luis Obispo, and Santa Barbara Counties (USFWS 2007). CRLF is generally found along marshes, streams, ponds, and other permanent sources of water where dense scrubby vegetation such as willows, cattails, and bulrushes dominate, and water quality is good. Breeding sites occur along watercourses with pools that remain long enough for breeding and the development of larvae. Breeding time depends on winter rains but is usually between late November and late April (Jennings 1988).

There are two CNDDB records of CRLF in tributaries to the Salinas River, at Graves Creek and Paso Robles Creek, which are both over 6 miles from the Project Site. The Project area is located within CRLF historical range and habitat suitable to support CRLF is found in the Project area, consisting of areas of slow-moving water and associated side channels in the Salinas River. The Project area is not located within the designated critical habitat for CRLF (USFWS 2006a). Since CRLF are known to migrate up to one-mile from breeding sites, all upland areas with intact undisturbed vegetation within one mile of the Salinas River would be considered suitable upland habitat for the CRLF. Due to previous Project Site disturbances and the minimal amount of CRLF habitat within the Project area, the likelihood of occurrence within the Project Site is considered low. No CRLF were identified within Project area during the field survey on April 16, 2008

Birds

Least Bell's Vireo (*Vireo belii pusillus*). The least Bell's vireo is listed as endangered under the federal and state ESA. The least Bell's vireo's historical range extends from Red Bluff

in the north; to northwestern Baja California in the south; and to Owens Valley, Death Valley, and the Mojave River in the east. This species current range is a very small fraction of its former range. The least Bell's vireo is a migratory songbird that nests and forages almost exclusively in riparian woodlands. It is only found in California during the breeding season from mid-March to late September. It winters in southern Baja California, Mexico. In 1986, when the least Bell's vireo was federally listed, it had been extirpated from most of its historical range and there were only 300 pairs statewide (USFWS 2007). These breeding pairs were confined to eight counties south of Santa Barbara, with most of them occurring in San Diego County (USFWS 2007).

The Project area is located adjacent to the Salinas River which supports riparian habitat and may provide habitat suitable to support the least Bell's vireo. However, the Project area is not located within the designated critical habitat for the least Bell's vireo (USFWS 1994b). A recent occurrence of the least Bell's vireo has been recorded at Camp Roberts Military Reservation on the Salinas River, approximately nine miles from the Project area (Kofron 2005). Another record of the least Bell's vireo was found in the Salinas River upstream and downstream of Bradley Bridge, approximately 19.0 miles from the Project area in 1985 (CDFG 2006). In summary, the Project area is located within the historical range of the least Bell's vireo, which has the potential to occur within the Salinas River corridor during it's breeding period.

Southwestern Willow Flycatcher (*Empidonax trialli extimus*). The southwestern willow flycatcher is listed as endangered under the ESA. Historically, this migrant was known to occur in suitable habitat in the Los Angeles Basin; San Bernardino, Riverside, and San Diego Counties; and the lower Colorado River. The southwestern willow flycatcher inhabits riparian habitats along rivers, streams, and other wetland habitats with dense growths of willows. They are only found in California during their breeding season from the middle of May to late August and are known to winter in Mexico, Central America, and northern South America.

The Project area is located adjacent to the Salinas River which supports riparian habitat and may provide habitat suitable to support the southwestern willow flycatcher; however, the southwestern willow flycatcher's historical range does not include San Luis Obispo County (USFWS 2007). This species is not included in the USFWS species list for San Luis Obispo County (USFWS 2007). In addition, there are no known CNDDB records of this species for the entire County of San Luis Obispo (CDFG 2006). For these reasons, it is highly unlikely that the southwestern willow flycatcher would occur in the Project area or its vicinity. Further, the Project area is not located within the proposed critical habitat for the southwestern willow flycatcher (USFWS 2004).

Cooper's Hawk (*Accipiter cooperii*). This species is considered a California special concern species during its nesting period. Preferred nesting habitat consists of dense stands of coast live oak, riparian or other forest habitat located near water. Cooper's hawk is considered an uncommon transient and winter visitor throughout most of San Luis Obispo County. This species was observed on the Project Site during a reconnaissance-level survey conducted by Padre on April 17, 2008. Further, suitable nesting habitat occurs within adjacent habitat in the Salinas River.

Yellow Warbler (*Dendroica petechia brewsteri*). The yellow warbler is a California Species of Special Concern. There is a moderate level of potential for this species to occur within the riparian habitat of the Salinas River as a migratory stop-over, for nesting, or for foraging. It is a common nesting species in riparian habitats in San Luis Obispo County.

Great Blue Heron (*Ardea herodias*). The CNDDB ranks the great blue heron as a G5, identifying the species' population as globally secure. This species is not listed or proposed for listing, but considered biologically or locally rare by CDFG or associated with a declining habitat. Great blue heron occurs near sources of water, including rivers lake edges, marshes and swamps foraging on fish and amphibians. They are also found in agricultural areas and grasslands foraging for amphibians and rodents. They roost in trees near water. Great blue heron have been identified within the Salinas River (CNDDB), located adjacent to the Project Site. No great blue heron were identified during the field survey on April 16, 2008.

California horned lark (*Eremophila alpestris actia*). California horned lark commonly occur in grasslands and other open habitats with low, sparse vegetation, which occurs within the Project Site. However, this species were not observed during field surveys. Further, the long history of site disturbance within the area has reduced the quality of grassland habitat within and adjacent to the Project Site. Therefore, use of the by these species is expected to be temporary in nature and likelihood of occurrence is considered low. No impacts to California horned lark would result from Project implementation.

Birds of Prey. The Cooper's hawk, sharp-shinned hawk, white-tailed kite, prairie falcon, northern harrier, ferruginous hawk, and golden eagle are wide ranging birds-of-prey that could use the Project Site for the purposes of foraging during migration and/or movement through the region. Several of these species often utilize dense riparian corridors for the purposes of nesting (e.g., Cooper's hawk, etc.). Based on field observations, the Project Site provides only limited prey base for large raptors (only minimal evidence of fossorial activity). Further, no remnant raptor nests were identified within the canopies surrounding the Project Site. Therefore, use of the Project Site by these species is expected to be temporary in nature and likelihood of occurrence is considered low. Impacts to special-status birds of prey are expected to be less than significant.

Other Protected Bird Species. A number of bird species potentially occurring on the Project Site are protected during their nesting period under the provisions of the Federal Migratory Bird Treaty Act of 1918. Several species observed utilizing oak trees near the Project Site could be affected by oak tree removal and/or pruning/limbing, specifically acorn woodpeckers utilizing oak trees for acorn storage for the winter seasons. Other activities during Project construction including short-term noise, dust, and human presence could impact nesting birds adjacent to the Project Site and along the transmission pipeline corridor.

Use of trenchless horizontal drilling of the transmission pipeline when crossing the Salinas River would reduce impacts to riparian habitat. Further, pre-activity nesting bird surveys would reduce potential impacts to various bird species by ensuring that active nests are avoided as necessary during Project implementation. Also, oak tree avoidance mitigation measures will be implemented according to the City of Paso Robles Oak Tree Ordinance. Therefore, potential impacts to sensitive species and nesting birds would be mitigated to less than significant.

Mammals

San Joaquin Kit Fox. Connectivity to the Salinas River provides suitable habitat for San Joaquin kit fox (SJKF). Specifically, SJKF is most commonly associated with grassland habitats dominated by native perennial and introduced grasses, and have been observed in cultivated lands and pastures such as those occurring within and adjacent to the Project Site. SJKF dens are typically located in flat terrain or gently sloping hills, in washes, drainages and roadside berms. Further, the Project Site is located within a designated SJKF movement corridor and habitat linkage between the Carrizo Plain and Salinas Valley. The CNDDB has a documented sighting in 1991 southeast of Union Road and Golden Hill Road, approximately 4.0 miles from the Project Site. As such, the Project Site may provide suitable habitat for SJKF.

Hoary Bat. The CNDDB ranks the hoary bat as a G5 and S4, identifying the species' population as secure globally and in California with some threat and somewhat narrow habitat. The hoary bat utilizes riparian corridors and woodland edges for foraging, roosting in trees 10-15 feet above ground. They are not typically attracted to houses or other human structures; however the adjacent riparian corridor and open agricultural areas near the Project Site may provide suitable habitat for hoary bat. The nearest known location of hoary bat was documented approximately 13 miles NNW of Project Site. No bats were identified within the BSA during the April 16, 2008 field survey.

Wildlife Movement Corridors. "Movement corridors" are connections between habitat areas that allow for physical and genetic exchange between animal populations. These connections may be local, such as between foraging and nesting or denning areas, or regional in nature. As undisturbed habitats become surrounded by urban development, they become isolated from neighboring areas. Movement corridors provide critical linkage between islands of open space, isolated foraging and breeding habitats, and other important wildlife use areas. Drainage courses and adjacent upland habitats typically function as migration corridors providing some water and cover for animals. Within the immediate vicinity of the Project site, important movement corridors exist within the Salinas River and associated tributaries which connect with off-site habitat areas.

Answers to Checklist Questions

Questions A:

Noise, dust and vehicle operation generated by construction and demolition activities may disrupt foraging activities of some wildlife within the boundaries of the Project Site and immediate vicinity. Although highly mobile wildlife species (e.g., birds) would be expected to avoid the Project Site, construction activities may also result in mortality of less mobile species, particularly, fossorial (ground-dwelling) species. Additionally, short-term construction activities may result in secondary impacts to the Salinas River and adjacent unnamed tributary due to dust, erosion, sedimentation, and risk of upset (i.e., miscellaneous spills from construction vehicles and/or equipment). Overall, due to the current level of disturbance associated with the existing facilities, the limited number of wildlife species occurring within the BSA, the absence of special-status plant and wildlife species found within the Project Site limits, and the availability of suitable habitat in the

region, impacts to general wildlife are expected to be less than significant. However, the proposed Project has the potential to result in temporary impacts to nesting birds protected under the Migratory Bird Treaty Act (MBTA). Implementation of the mitigation measures outlined below would mitigate impacts to nesting birds to less than significant levels.

No special-status wildlife species were identified within the BSA during the April 16, 2008 field survey. Special-status species such as California red-legged frog, least Bell's vireo, southwestern willow flycatcher, San Joaquin kit fox, south central California coast steelhead, hoary bat, southwestern pond turtle, coast horned lizard, Cooper's hawk, yellow warbler, great blue heron, and California horned lark all have the potential to occur within the habitats immediately adjacent to the Project Site. However, the proposed Project would not result in any direct impacts to the riparian corridor, stream channels, or potentially viable habitat in which sensitive species could be found; therefore, impacts to these species would be considered less than significant. Furthermore, implementation of the mitigation measures outlined below would reduce potential secondary impacts to these species to less than significant levels.

Based on current Project information, potential impacts may occur to oak trees along the transmission pipeline corridor and associated nesting bird species. Specifically, the proposed corridor in which will be disturbed via open trench construction may result in removal, pruning and/or damage to the root system of several oak trees. Disturbance to the oak trees may result in significant impact to wildlife, specifically nesting birds and acorn woodpecker granaries. However, implementation of mitigation measures would reduce potential impacts to the oak trees and wildlife utilizing the oak trees to a less than significant level.

Long-term impacts may occur due to an increase of human activity and noise associated with the WTP facilities. Such activity may disturb migratory birds which may utilize the riparian forest or oak trees within the Project Site for nesting and migratory purposes. However, these long-term impacts are considered to be less than significant due to the high level of disturbance associated with the existing facility, the permanent presence of agricultural practices, and the availability of suitable nesting habitat within the Project Site and surrounding areas.

Question B:

No special-status wildlife species were identified within the BSA during the April 16, 2008 field survey. Special-status species such as California red-legged frog, least Bell's vireo, southwestern willow flycatcher, San Joaquin kit fox, south central California coast steelhead, hoary bat, southwestern pond turtle, coast horned lizard, Cooper's hawk, yellow warbler, great blue heron, and California horned lark all have the potential to occur within the habitats immediately adjacent to the Project Site. However, the proposed Project would not result in any direct impacts to the riparian corridor, stream channels, or potentially viable habitat in which sensitive species could be found; therefore, impacts to these species would be considered less than significant.

Furthermore, implementation of the mitigation measures outlined below would reduce potential secondary impacts to these species to less than significant levels.

Questions C-D:

Long-term impacts may occur due to an increase of human activity and noise associated with the WTP facilities. Such activity may disturb migratory birds which may utilize the riparian forest or oak trees within the Project Site for nesting and migratory purposes. However, these long-term impacts are considered to be less than significant due to the high level of disturbance associated with the existing facility, the permanent presence of agricultural practices, and the availability of suitable nesting habitat within the Project Site and surrounding areas.

Questions E-F:

Based on current Project information, potential impacts may occur to oak trees along the transmission pipeline corridor and associated nesting bird species. Specifically, the proposed corridor in which will be disturbed via open trench construction may result in removal, pruning and/or damage to the root system of several oak trees. Disturbance to the oak trees may result in significant impact to wildlife, specifically nesting birds and acorn woodpecker granaries. However, implementation of mitigation measures would reduce potential impacts to the oak trees and wildlife utilizing the oak trees to a less than significant level.

3.4.7 Mitigation Measures

Past and current land use practices have impacted the extent and diversity of the plant communities existing within the Project Site. However, as indicated above, the Project Site contains suitable habitat to support a wide species diversity as may be present in surrounding areas. Therefore, it is recommended that the following measures be implemented during the proposed Project to reduce potential impacts to sensitive resources to a less than significant level:

Mitigation Measure: BIO-1: If feasible, construction activities shall take place outside of the nesting bird season (i.e., March 15 to August 15). If construction activities occur within nesting bird season, a qualified biologist shall perform pre-activity nesting bird surveys to determine if breeding/nesting birds are present within the Project Site. If an active bird nest is identified, then CDFG and/or USWFS shall be consulted to determine appropriate buffer during construction activities.

Mitigation Measure: BIO-2: A qualified biologist shall be retained to conduct a pre-construction survey of the Project Site and the adjacent habitats. In the event that any special-status species are identified within the Project area (i.e., SJKF, CRLF, southwestern pond turtle, two-striped garter snake), all work shall cease and the appropriate agencies shall be contacted for further consultation. As necessary, appropriate regulatory agency permits and/or approvals shall be obtained to allow

relocation of special-status species from the Project area. In addition, the following measures shall be implemented to further mitigate impacts to SJKF:

- SJKF protection measures shall be included on Project plans;
- A maximum 25 mph speed limit shall be required at the Project Site during construction;
- All construction activities shall cease at dusk;
- All excavations deeper than two feet shall be covered at the end of each working day or escape ramps for SJKF shall be provided;
- All pipes, culverts, or similar structures shall be inspected for SJKF before burying, capping, or moving; and,
- All food-related trash shall be removed from the Project Site at the end of each working day.

Mitigation Measure BIO-3: A worker education program shall be prepared and presented to all construction personnel at the beginning of the Project. The program shall discuss sensitive species with potential to occur in the construction zone, with emphasis on: special-status wildlife and plant species. The program shall explain the importance of minimizing disturbance and adhering to other disturbance minimizing measures.

Mitigation Measure: BIO-4: The use of heavy equipment and vehicles shall be limited to the proposed Project limits, existing roadways, and defined staging areas/access points. The boundaries of each work area shall be clearly defined and marked with visible flagging and/or orange protective fencing.

Mitigation Measure: BIO-5: Erosion control measures shall be implemented to prevent runoff to the Salinas River corridor and associated tributaries. Silt fencing, in conjunction with other methods, shall be used to prevent erosion and avoid and/or minimize silts and sediments from entering adjacent waterways.

Mitigation Measure: BIO-6: During construction, washing of concrete, paint, or equipment and refueling and maintenance of equipment shall occur only in designated areas a minimum of 50 feet from the Salinas River and the adjacent stream. Straw bales, sandbags, and sorbent pads shall be available to prevent water and/or spilled fuel from entering stream channels. In addition, all equipment and materials shall be stored/stockpiled away from the swale. Construction equipment shall be inspected by the operator on a daily basis to ensure that equipment is in good working order and no fuel or lubricant leaks are present.

Mitigation Measure: BIO-7: Protective fencing shall be installed along the perimeter of the Project Site to protect the surrounding habitat located adjacent to the work area. This

would include the riparian corridor of the Salinas River and the maintained drainage feature within the northeast portion of the Project Site.

Mitigation Measure: BIO-8: Oak tree protection and replacement procedures shall be implemented during the Project. This includes procedures for protecting oak trees to remain in place during construction, and replacing oak trees that are impacted. Oak tree protections must comply with the City of Paso Robles Tree Ordinance No. 835 N.S; therefore, the following measures shall be implemented to mitigate for potential impacts to oak trees:

- Permits to Remove or Prune will be obtained in the event any oak tree or limb over 6-inches in DBH are to be removed, or otherwise destroyed;

- Protective fencing shall be installed around oak trees that have the potential to be impacted by proposed construction activities. The fencing shall be installed prior to grubbing/construction and provide the greatest protection of the root zone of oak trees;

- To further protect oak trees to remain in place, a certified arborist shall be retained to perform any necessary trimming of oak tree limbs overhanging the proposed pipeline corridor and around the perimeter of the WTP. This shall be conducted prior to allowing construction equipment access to avoid and/or minimize the potential for inadvertent damage to oak trees limbs;

- Newly planted oak trees should be placed around the perimeter of the proposed building envelope, along the proposed water tank access road, and within the proposed water tank site. The location of newly planted oak trees shall adhere to the following whenever possible: on the north side of and at the canopy/dripline edge of existing mature native trees; north-facing slopes; within drainages swales; where topsoil is present; and if clustered, at least 10-feet “on center” separation between each tree. Tree spacing will average approximately 15 feet on-center. Some clustering is acceptable to maintain a more natural appearance; and,

- Newly planted trees shall be maintained until successfully established. This shall include protection (e.g., caging, tree shelters) from burrowing and browsing animals (e.g., deer, rodents), regular weeding (minimum of once early fall and once early spring) of at least a 3-foot radius around the plant base and adequate watering. Heavy mulching is also recommended. If possible, planting during the warmest, driest months (June through September) shall be avoided.

Mitigation Measure: BIO-9: To minimize the effects of future exterior lighting on special-status wildlife species (i.e., southwestern pond turtle, CRLF, etc.), all outdoor lighting fixtures shall be shall be positioned and/or shielded to avoid direct lighting to adjacent streams and surrounding habitat areas.

Mitigation Measure: BIO-10: During HDD operations across the Salinas River, a full-time monitor shall be on-site to inspect the River corridor and pipeline alignment during

drilling activities that have the potential for a spill or "Frac-out" (i.e. pull back operations, etc.) to ensure there are no impacts to the Salinas River. In the event of a spill or "Frac-out" within the Salinas River corridor, all work shall be halted and the spill shall be contained using the procedures outlined in the "Frac-out Contingency Plan."

Mitigation Measure: BIO-11: A "Frac-out Contingency Plan" shall be prepared for HDD operations within the Salinas River channel and shall include appropriate measures for containment of spills, agency notifications, clean-up protocols, and restoring the river channel to pre-disturbance conditions.

Mitigation Measure: BIO-12: In the event that a "Frac-out" occurs within the Salinas River channel due to horizontal directional drilling (HDD) activities, a 404 Permit shall be obtained from the U.S. Army Corps of Engineers to facilitate any required clean-up activities within the river channel.

3.4.8 Finding

Implementation of the above-mentioned measures should reduce impacts to special-status species potentially occurring within the proposed Project Site and existing sensitive habitat areas to a less than significant level.

3.5 CULTURAL RESOURCES

Would the proposal:	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant Impact
a) Cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5?	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature of paleontological or cultural value?	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐

This section contains setting information and conclusions/recommendations summarized from the *Cultural Resources Survey Report For The Water Treatment Plant Initial Study*, prepared by Jennifer Farquhar of Albion Environmental, Inc. A full copy of the report in contained in Appendix B.

Albion's investigation included a background records search at the California Historical Resources Information System Central Coast Information Center at the University of California at Santa Barbara, and a field investigation entailing pedestrian survey of the parcel for built environment and archaeological resources. A limited geo-archaeological investigation of the

Project area was also conducted to assess the potential for buried landforms and cultural deposits. The cultural resources evaluation was designed to adequately address treatment of cultural resources under current CEQA guidelines (Article 5: Section 15064.5).

3.5.1 Environmental Setting

A search of records at the Central Coast Information Center (CCIC) at the University of California, Santa Barbara indicated most of the Project area had been previously inventoried for cultural resources. Three prehistoric sites are recorded directly in the Project alignment: CA-SLO-1894, CA-SLO-1895, and CA-SLO-1896 are recorded as extensive habitation sites containing flaked and ground stone tools, and faunal remains including mammal bone and marine shell.

The records search identified two additional prehistoric sites within 0.25-mi of the Project alignment. Sites CA-SLO-1297 and CA-SLO-2228 are located on a terrace on the east bank of the Salinas River, about 200 meters south of the proposed pipeline alignment than runs east from the Salinas River to South River Road.

Portions of CA-SLO-1894, CA-SLO-1895, and CA-SLO-1896 (west of the current Project area) were evaluated in 2003, in advance of the Thunderbird Wells 16-inch Waterline Project (Getchell and Atwood 2003). Limited subsurface investigations in the Thunderbird Project corridor indicated only CA-SLO-1896 was significant, however, no additional investigation (data recovery) was completed; investigations at CA-SLO-1894 and CA-SLO-1895 were inconclusive. The report recommended that any other proposed Projects involving portions of the archaeological sites outside the Thunderbird Project corridor be subject to a more robust evaluation, including controlled hand excavation and selective screening of site deposits (Getchell and Atwood 2003:52).

Prehistoric Overview. Archaeologists working in central California have generally recognized six major prehistoric periods of cultural adaptation within the last 10,000-year record of human occupation (T. Jones and Ferneau 2002). This six-period temporal framework is presented in Table 1, and is based on the work of T. Jones and Ferneau (2002). The initial period, Paleoindian, originated during the Late Pleistocene and continued until approximately 8,500 B.P. This was followed by the Millingstone (8,500-5,500 B.P.), during which milling equipment (manos and metates) become increasingly abundant in the archaeological record and populations apparently followed a generalized subsistence pattern. The ensuing period, the Early Period (5,500-2,600 B.P.), was a time of new subsistence emphases, including a greater reliance on hunting and the exploitation of acorns. The Middle Period (2,600-1,000 B.P.) was marked by the intensification of subsistence practices, especially a greater reliance on marine and littoral foods. During the Middle/Late Transition (1,000-750 B.P.), central Californian populations experienced deteriorating environmental parameters, and apparently underwent major adaptive shifts in both subsistence and settlement. Finally, the Late Period (750-200 B.P.) was a time marked by the appearance of numerous Projectile points, including small side-notched (Desert side-notched), triangular (Cottonwood series), and leaf-shaped points.

Archaeological evidence for terminal Pleistocene/early Holocene occupation of the central California coast region is limited. Few components from this period have been

investigated, and many questions regarding settlement, subsistence, stone industries, and social organization, among others, remain unanswered. In general, researchers normally divide this time span into two divisions: the Paleoindian (pre-8,500 B.P.) and the Millingstone (8,500-5,500 B.P.). As summarized by Moratto (1984) and Davis et al. (1969:7), Paleoindian, or Paleo-Coastal, sites date from 11,000 B.P. to approximately 8,500 B.P. and are generally found along estuaries, bay shores, and islands. Faunal assemblages are reported to contain an array of shellfish, marine and land mammals, birds, and fish (although very few faunal analyses have been conducted from these early sites). Sites attributed to the Millingstone Period, by contrast, are best characterized by high density shell middens. As the name for this period implies, site assemblages are dominated by abundant milling stones and handstones and a low incidence of Projectile points and other flaked stone (Meighan 1978; Erlandson 1991, 1994; Fitzgerald and T. Jones 1999). Erlandson (1991, 1994) has suggested that Millingstone Period groups were semi-sedentary, their diets emphasizing shellfish and other marine foods. Other researchers, however, have argued that both coastal and interior habitats were exploited by early Holocene populations targeting a variety of grass seeds, nuts, and other inland plant taxa as well as shellfish (Hildebrandt 1994; T. Jones and Richman 1995; Mikkelsen et al. 1998).

Ethnohistoric Overview. At the time of Euroamerican contact, a substantial Native American population inhabited the South Coast Range and surrounding areas. Two Native groups, the Obispeño Chumash and the Salinan, occupied northern San Luis Obispo and southern Monterey counties, though the actual boundaries between the two groups has recently come under dispute. Although the northern portion of Obispeño Chumash territory has traditionally been assumed to encompass Morro Bay, more recent evidence suggests that this boundary may have extended farther north near the current Monterey County line (Rivers and Farris in T. Jones et al. 1994:10). The modern descendants of the Salinan, however, have disputed this claim, contending that southern Monterey County was Salinan territory. Regardless of the exact boundary between the two groups, it is likely that this boundary changed through time. Recently, investigations of Mission records and extrapolation from these data have led to more informed speculation about group distribution and territorial boundaries (Milliken and Johnson 2003). Further discussion of these cultures is provided in Appendix B.

Historic Overview. In 1821, Mexico achieved her independence from Spain, and word of this event reached Alta California the following year. The colonial policies of the republic were to be quite different from those of the Spanish monarchy. Not only were Californians allowed to trade with foreigners, but foreigners could also now hold land in the province once they had been naturalized and converted to Catholicism. Under Spain, land grants to individuals were few in number, and title to these lands remained in the hands of the crown. Under Mexican rule, however, governors were encouraged to make more grants for individual ranchos, and these grants were to be outright. Most importantly, the new Mexican republic was determined to move to “secularize” the missions, to remove the natives and the mission property from the control of the Franciscan missionaries.

Secularization was set in motion by the Mexican Governor Echeandia in 1826, but was not carried out in earnest until 1834 when Governor José Figueroa issued an official proclamation ordering the secularization of the California missions. His proclamation turned the mission properties over to Mexican civil authorities, allowed for the dispersement of mission property, opened mission land for settlement by petitioners, and created a series of pueblos.

Indian neophytes were freed from their role as personal servants to the padres; however, in reality, the effects of secularization throughout California were to deprive a large percentage of the remaining mission Indians of their property. This resulted in the creation of a relatively large population of landless Indian tenants, many of whom sought work in the newly created rancherias. Detailed discussion of historic periods is provided in Appendix B.

Results of the Field Investigation

The investigation was designed to address identification of significant cultural resources under current California Environmental Quality Act (CEQA) guidelines under Section Article 5: Section 15064.5. All work was conducted in accordance with CEQA guidelines and regulations.

The pedestrian survey was conducted over several days including April 18, 2008 (built environment resources), April 22, 2008 (archaeological survey of pipe alignment), and April 25, 2008, (archaeological survey of 13-acre water treatment plant and facilities site).

A Frame Vernacular-style barn is located in a recently-plowed field on the west side of the Salinas River, 108 feet east of the tracks originally built by the Southern Pacific Railroad (Photograph 3). It is two stories in height, 58 feet in length, and 46 feet in width. It has a rectangular plan, a moderate-pitched gable roof clad with corrugated metal, and a wood frame structural system. The foundation includes both a 6 inch-wide, continuous concrete perimeter foundation, as well as an interior foundation consisting of narrow rows of continuous concrete that run the length of the barn. The exterior wall fabric consists of 12 inch-wide, unpainted, vertical wood planks. There are three wooden doors on the north elevation. Attached to the south elevation is a single-story, frame storage room (used for feed) measuring 31.25 feet in length and 14.5 feet in width. The storage room has a shed roof clad with corrugated metal. The south elevation also features a rectangular-shaped, gable-end ventilator.

The subject barn does not appear to meet any of the criteria for listing in the National Register of Historic Places. No further action is required regarding the barn, however, monitoring during Project construction is recommended to ensure potentially significant features (i.e. trash pits, foundations for other buildings) are treated in accordance with CEQA guidelines.

Visual inspection of the Project area revealed a sparse to moderately dense accumulation of prehistoric artifacts from the north boundary of the 13-acre water treatment site along the proposed pipe alignment, for approximately 1500 meters. Materials included flaked and groundstone tools, marine shell and mammal bone. The artifact scatter confirms the location of the recorded archaeological sites CA-SLO-1894, CA-SLO-1895, and CA-SLO-1896. An accumulation of martial between the recoded site boundaries suggest a continuous deposit, rather than three discreet site locations. Figure 3 depicts locations of formal artifacts observed during the inspection. Flaked stone debitage and other non-diagnostic debris was not mapped; additional artifacts and ecofacts are likely located below the surface of the plowed field.

In addition, three isolated prehistoric artifacts (two groundstone fragments and one piece of flaked stone debitage) were observed in the 13-acre water treatment parcel. While no associated midden soils were observed, the parcel appears to have a substantial cover of

imported fill. The relationship between these materials and site CA-SLO-1896 to the north is unknown.

Two additional isolated artifacts (handstone fragments) were observed along the pipe alignment that travels west from Charolais Road. No other associated materials or midden soils were noted in this disturbed context (unimproved roadbed). Origins of these materials are unknown, however, two previously recoded prehistoric sites are located about 200 meters to the south.

3.5.2 Thresholds of Significance

Based on the mandatory findings of significance criteria at Section 15065 and Appendix G of the State CEQA Guidelines (Governor's Office of Planning and Research, 1999), an impact would be significant if any of the following conditions, or potential thereof, would result with implementation of the Proposed Project:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15065.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature of paleontological or cultural value; or,
- Disturb any human remains, including those interred outside of formal cemeteries.

Additionally, the State Historical Commission is officially responsible for determining whether a property is eligible for listing in the California Register of Historical Resources (CRHP)(Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5 (a) (1)). A resource shall be considered "historically significant" if it meets the criteria for listing in the California Register, including the following attributes:

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

Cultural resources that meet one or more of these criteria are defined as "historical resources" under CEQA. The other set of standards used for determining whether a site may be considered "significant" is the eligibility criteria for listing in the National Register of Historic Places (NRHP). These criteria provided the template for those now used for the California

Register. The regulations for the NRHP, in title 36, part 60 of the Code of Federal Regulations (36 CFR 60), define the criteria for legally evaluating the significance of cultural resources:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. 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.

3.5.3 Answers to Checklist Questions

Question A:

The Project barn does not appear to be eligible for listing in the National Register of Historic Places due to its lack of historical significance and integrity. It lacks association with significant periods of agricultural and ranching development in the Paso Robles area to be significant under Criterion A, and it is not associated with any person(s) significant in history under Criterion B. The Project barn also lacks sufficient design distinction to be significant under Criterion C, and it lacks the potential to contribute further information of historical importance under Criterion D.

Question B:

A search of records at the Central Coast Information Center (CCIC) at the University of California, Santa Barbara indicated most of the Project area had been previously inventoried for cultural resources. Three prehistoric sites are recorded directly in the Project alignment: CA-SLO-1894, CA-SLO-1895, and CA-SLO-1896 are recorded as extensive habitation sites containing flaked and ground stone tools, and faunal remains including mammal bone and marine shell. Construction activities associated with the proposed Project may result in a significant impact to existing historical resources at the Project site.

Questions C and D:

Based on review of the soil surveys, geologic maps, and field work, there appears to be negligible potential for buried soils along the Project alignment east of the Salinas River. West of the river, the pipeline would traverse both Lockwood and Mocho soils on the stream terrace of the river. This relatively stable landform was created during alluvial

deposition throughout the Holocene. The landform was also attractive to people, as evidenced by the surface sites recorded in the immediate area.

Previous archaeological work on the terrace west of the river was limited to shallow probes of the surface deposit (Getchell and Atwood 2003). These investigations would not have detected deeply buried cultural sites. Therefore it is recommended that in conjunction with the Phase II Evaluation, a backhoe be employed to excavate at least two trenches along the proposed Project alignment to determine if buried soils are present. The trenches should be excavated at least to the depth of the proposed Project's excavation. If buried soils are found, further trenching should be conducted at the discretion of the Project director to determine if the buried soils contain cultural deposits

3.5.4 Mitigation Measures

The following measures are recommended:

Mitigation Measure CUL-1: Prior to Project construction, conduct Phase II Evaluations, and if needed, Phase III Data Recovery Excavations at the three sites determined to be within the Project alignment (CA-SLO-1894, SLO-1895, and SLO-1896). Archaeological investigations may involve a combined (or phased) approach to identify significant resources and mitigate impacts to significant sites. The purpose of Phase II Evaluation should be to determine if the potions of these sites in the Project alignment are considered significant cultural resources (historical resources) under CEQA, and to assess Project impacts to significant resources. Phase II evaluations should comprise archaeological sampling of selected portions of the sites within the Project corridor, and evaluating the materials collected to determine if the site contains important information and retains the integrity necessary and sufficient to meet the criteria for significance under CEQA. The level of effort proposed for each site should be sufficient to evaluate the site for California Register of Historic Places (CRHP) eligibility (integrity and content). Methods employed should be appropriate to address horizontal and vertical extent of site deposits in the Project corridor. If Phase II evaluations do not support eligibility, work at that site will cease (i.e., data recovery/mitigation will not be necessary). Significant sites determined to require mitigation of Project effects shall be subject to Phase III Data Recovery Excavations. The goal of the data recovery should be to retrieve, analyze, and disseminate anthropological information stored in the in the part of the site that will be impacted by the Project. Work should be guided by a research design/treatment plan outlining pertinent research issues, field methods, laboratory processing, special studies, curation, and reporting requirements

Mitigation Measure CUL-2: Planning phases of the Phase II/Phase III work should include consultation with the public, specifically local Native American tribal representatives to address traditional uses of the Project area, and their concerns about the disposition of traditional and archaeological resources.

Mitigation Measure CUL-3: During construction, a qualified archaeological monitor should be present during ground disturbance in the Project area to ensure that any newly discovered resources are evaluated under current CEQA guidelines. If prehistoric or historic deposits or

features are discovered during construction, activities in the area should cease and a qualified archaeologist should inspect the discovery and prepare a recommendation for a further course of action.

3.5.5 Finding

With the incorporation of mitigation measures, impacts to cultural resources would be less than significant.

3.6 GEOLOGY, SEISMICITY, AND SOILS

Would the proposal result in or expose people to potential impacts involving:	**Potentially Significant Impact**	**Potentially Significant Unless Mitigated**	**Less than Significant Impact**
a) 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? v) Subsidence?	☐	☐	☒
b) Result in substantial soil erosion, siltation, changes in topography, the loss of topsoil or unstable soil conditions from excavation, grading or fill?	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), 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?	☐	☐	☒
f) Result in substantial soil degradation or contamination?	☐	☐	☒

3.6.1 Environmental Setting

The Project area is situated within the City's existing Thunderbird Well Field property and the pipeline alignment extending north of the WTP site. The Union Pacific Railroad (UPRR) lies west of the WTP site and the portion of the proposed pipeline route lying west of the Salinas River. West of the UPRR right-of-way is located industrial properties. Agricultural land exists north and south of the WTP. The Salinas River lies east of the WTP site. The elevation of the WTP site is approximately 720 feet above mean sea level with a slightly sloping terrain to the east towards the Salinas River.

3.6.1.1 Regional Geology

The City lies within the Coastal Ranges Geomorphic Province, an area characterized by low rolling hills with broad valleys and eroded alluvial terraces. The Project area is within the western margins of the Salinian block portion of the province. The Salinian block is composed of a Mesozoic and older crystalline basement complex of plutonic and metamorphic rocks overlain by a thick sequence of Upper Cretaceous and lower Tertiary marine and non-marine sedimentary rocks.

Bedrock at the Project site consists of the Paso Robles Formation, which underlies most of the hillside west of the City. The Paso Robles Formation is composed of a poorly consolidated mixture of gravel, sand, silt, and clay. The formation is rich in clay due in part to a high concentration of eroded shale clasts reworked from the Monterey Formation. The Paso Robles Formation is in turn overlain by a mantle of unconsolidated alluvial terrace deposits.

3.6.1.2 Seismic Hazards

The Paso Robles area is subject to seismic hazards from several regional faults. Seismic hazards can include surface fractures along pre-existing fault planes and damage from seismically induced ground-motion including liquefaction and landslides. Active fault zones mapped in this area include the San Andreas (northeast of the City), Rinconada Fault (south of the City), and Hosgri "Offshore" Fault. The Offshore Fault is seismically active, but available marine geophysical data indicate that future surface rupture is improbable along this fault. Also, a broad set of short, discontinuous faults between Santa Maria and Big Sur occur near the Paso Robles area, often referred to as the Nacimiento fault zone. The Salinian block is bound on the east and west by the San Andreas and the Sur/Nacimiento/Rinconada fault systems, respectively. The geologic structure in the Paso Robles area is characterized by a series of northwest-trending anticlinal and synclinal folds and faults. A number of earthquakes with a moment magnitude (M) greater than 5 have occurred in recent time in the region on these faults, including the M 6.5 San Simeon Earthquake.

The Rinconada fault is the closest mapped fault to the Project area. It is mapped as a locally concealed northwest-southeast trending fault immediately northeast of the Project area. There is also a concealed splay of the fault immediately to the southwest of the Project site.

The epicenter of the San Simeon Earthquake was located approximately 20 miles west-northwest of the Project site, near the Nacimiento and Oceanic fault zones. The rupture of the

San Simeon Earthquake is estimated to have extended southeast to within approximately eight miles west of the City.

Groundshaking is a major seismic concern for Paso Robles. Portions of Paso Robles, especially those areas within or immediately adjacent to the Salinas River and Huerhuero Creek floodplains, are located on alluvial deposits, which can increase the potential for groundshaking damage. Ground motion lasts longer on loose, unconsolidated materials than on solid rock. As a result, structures located on these types of materials may suffer greater damage. Alluvial soils can be a greater hazard for structures than proximity to a fault or an earthquake's epicenter. In addition, areas with shallow depths to groundwater, especially those areas located along Salinas River, can be prone to extreme shaking and liquefaction.

3.6.1.3 Soils

Prime soils in the City include Lockwood shaley loam, Hanford and Greenfield gravelly sandy loam, Arbuckle fine sandy loam, and Cropley Clay, when irrigated. Soils within the City are generally well to moderately-drained soils with a surface layer of coarse sandy loam to shaley loam west of the Salinas River, ranging to clay loam east of the river. The primary soil types within the Thunderbird Well Field (Project site) consist of Hanford and Greenfield gravelly sandy loam.

Soils in Paso Robles are classified as having high to moderate susceptibility to erosion. In the low-lying areas surrounding the Salinas River, erodability is attributed to river scouring and potential flooding. In the steep upland areas of the City, soils are subject to erosion from wind, rain, grazing, and human disturbance of soil and vegetation. Construction in areas of expansive soils may require major sub-excavation and replacement of existing materials with engineered fill.

3.6.2 Answers to Checklist Questions

Question A and C:

The Project would not expose people or structures to potential significant adverse effects, including risk of loss, injury, or death involving rupture of a known earthquake fault or strong seismic groundshaking. The nature of the Project would not expose people or structures to potential substantial adverse effects, including risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Because the Project site is located in a high to moderate-risk liquefaction zone, any proposed construction would require the adoption of appropriate engineering design in conformance with geotechnical standards for construction.

Because the Project site is located in a seismic area involving risks from strong groundshaking, any proposed construction would require the adoption of appropriate engineering design in conformance with geotechnical standards for construction. Recommendations and mitigation measures are provided by Mitigation Measure GEO-2.

The Project would not expose people or structures to potential substantial adverse effects, including risk of loss, injury, or death involving landslides. Landslides are not considered a hazard at the site due to the relatively flat topographic relief of the land.

The Project would not create substantial compaction of the ground surface through construction activities, nor would it draw down substantial amounts of near-surface groundwater; therefore significant subsidence is not likely to occur. Proposed excavation and grading activities would require the adoption of appropriate engineering design in conformance with geotechnical standards for construction. Recommendations and mitigation measures are provided by Mitigation Measure GEO-2.

Question B:

Due to the relatively level topography of the Project site and along the pipeline route, the Project has low potential to result in significant soil erosion during construction, resulting in loss of topsoil or unstable soil conditions; however, in the low-lying areas surrounding the Salinas River, erosion could cause a significant impact. Therefore, standard construction best management practices (BMPs) would be implemented to avoid and minimize soil loss and erosion with a Construction Storm Water Plan in conjunction with Project's final design and grading plan (see Mitigation Measure GEO-1).

Question D:

Soils underlying the Project footprint have moderate potential for expansiveness (City of Paso Robles Hazard Mitigation Study, 2005); however, this would be verified during the geotechnical engineering phase of the Project. Construction in areas of expansive soils may require major sub-excavation and replacement of existing materials with engineered fill. During the geotechnical engineering phase, proper implementation of recommendations by a licensed geotechnical engineer would address this issue.

Question E:

The Project would not rely on septic tanks or other alternative wastewater disposal systems, so the capability of soils to adequately support the use of septic tanks or alternative waste water disposal systems is not an issue associated with implementation of the proposed Project.

Question F:

Project construction and operation activities are not anticipated to result in significant soil degradation or contamination (see Section 3.6 – Hazards and Hazardous Materials).

3.6.3 Mitigation

Mitigation Measure GEO-1: To avoid and minimize any adverse impacts related to erosion, the City shall develop a Construction Storm Water Plan, which shall include the following elements (specific details are provided in Appendix C):

- soil stabilization;
- sediment, tracking, and dust control;
- material and waste management;
- vehicle and equipment BMPs; and
- dewatering measures.

Mitigation Measure GEO-2: A geotechnical engineering report shall be prepared and recommendations contained therein shall be incorporated as mitigation measures to address seismic issues and potential for expansive soils.

3.6.4 Finding

With the incorporation of mitigation, impacts to geology, seismicity and soils would be less than significant.

3.7 HAZARDS AND HAZARDOUS MATERIALS

Would the proposal result in or expose people to potential impacts involving:	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant Impact
a) Create a significant hazard to the public or the environment through the routine use, transport or disposal of hazardous materials?	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒
d) Expose people or structures to existing sources of hazardous emissions or hazardous or acutely hazardous materials, substances, or waste?	☐	☐	☒
e) 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, it would create a significant hazard to the public or the environment?	☐	☐	☒
f) For a Project located within an airport land use plan, or within two miles of a public airport, would the Project result in a safety hazard for the people residing or working in the Project area?	☐	☐	☒
g) Impair implementation of, or physically interfere with, the adopted emergency response plan or emergency evacuation plan?	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury, or death, involving wildland fires, including where wildlands are adjacent to urbanized areas or where residents are intermixed with wildlands?	☐	☐	☒

3.7.1 Environmental Setting

A Phase I Environmental Site Assessment (ESA) was prepared for the Project Site by Earth Systems Pacific (ESP, 2008). The objective of the Phase I ESA was to identify whether on-site use and storage of hazardous substances at the Project Site or adjacent to the Project Site have resulted in an impact to the environmental condition of the Project Site. The Phase I ESA included historical research to determine historical site and adjacent site uses, a site reconnaissance, regulatory agency contacts, and environmental database review. Based on the findings of the Phase I ESA, ESP concluded that no recognized environmental conditions were identified at the Project Site.

3.7.2 Regulatory Setting

The following section provides a brief description of some of the applicable state and federal regulations relating to the use, storage, and disposal of hazardous substances and petroleum.

Federal Laws/Regulations

Federal Water Pollution Control Act of 1972 (Clean Water Act). The Clean Water Act governs the control of water pollution in the United States. This Act includes the National Pollutant Discharge Elimination System (NPDES) program, which requires that permits be obtained for point discharges of wastewater. This Act also requires that storm water discharges be permitted, monitored, and controlled for public and private entities.

Resource Control and Recovery Act of 1974 (RCRA). RCRA was enacted as the first step in the regulation of the potential health and environmental problems associated with solid hazardous and non-hazardous waste disposal. RCRA, and the formation of the U.S. Environmental Protection Agency (EPA) to implement the Act, provide the framework for national hazardous waste management, including tracking hazardous wastes from point of origin to ultimate disposal.

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). Under CERCLA, owners and operators of real estate where there is hazardous substances contamination may be held strictly liable for the costs of cleaning up contamination found on their property. No evidence linking the owner/operator with the placement of the hazardous substances on the property is required. CERCLA, also known as Superfund, established a fund for the assessment and remediation of the worst hazardous waste sites in the nation.

California Laws/Regulations

Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code). The Porter- Cologne Act established a regulatory program to protect water quality and protect beneficial uses of the state's waters. The Porter-Cologne Act also established the State Water Resources Control Board and nine regional boards as the main state agencies responsible for water quality in the state. Discharges of wastes (including spills, leaks, or historical disposal sites) where they may impact the waters of the state are prohibited under the Porter-Cologne Act, including the discharge of hazardous wastes and petroleum products. The assessment and remediation of these waters are regulated by the regional boards, the Central Coast Regional Water Quality Control Board administers such waters in the vicinity of the proposed Project. *Title 22, California Code or Regulations.* Title 22 of the California Code of Regulation regulates the use and disposal of hazardous substances in California. It contains regulatory thresholds for hazardous wastes which are more restrictive than the federal hazardous waste regulations.

California Health and Safety Code Sections 25500 et seq. The California community right-to know hazardous material law applies to any facility that handles any hazardous material (chemical, chemical-containing products, hazardous wastes, etc.) in a quantity that exceeds

reporting thresholds. The most common thresholds that trigger regulation based on that state statute are 500 pounds of solid, 55 gallons of liquid, and 200 cubic feet of compressed gas, based on the presence of individual chemicals. The basic requirements of hazardous materials and community right-to-know regulations for covered facilities include:

- Determining whether the facility handles hazardous materials;
- Immediate reporting of releases of hazardous materials;
- Submission and update of a Hazardous Materials Business Plan (including an accurate chemical inventory, site map showing hazardous materials storage locations, emergency response plan, and notification procedures) as required by the local administering agency;
- Notification of the local administering agency of the handling of specified quantities of acute hazardous materials and submission of a Risk Management Plan (RMP) as required;
- Annual submission for manufacturing facilities of a Toxic Chemical Release Report (Form R) if threshold amounts of certain toxic chemicals are made, or processed for use; and,
- Requirements for hazardous materials storage imposed by local administering agencies, fire departments, and California Occupational Safety and Health Administration (Cal/OSHA) standards.

California Department of Industrial Relations, Division of Occupational Safety and Health. Worker health and safety in California is regulated by the Division of Occupational Safety and Health (Cal/OSHA). Cal/OSHA standards and practices for workers handling hazardous materials are contained in Title 8 of the California Code of Regulations.

Local Regulations

The San Luis Obispo County Division of Environmental Health conducts inspections to ensure proper handling, storage, and disposal of hazardous materials and proper remediation of contaminated sites. In addition, the Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires that any business that handles or stores hazardous materials prepare a Hazardous Materials Business Plan. Under this law, businesses are required to submit inventories of onsite hazardous materials and wastes and locations where these materials are stored and handled. This information is collected and reviewed by the SLODEH for emergency response planning.

3.7.3 Answers to Checklist Questions

Questions A, B, C, and D:

While grading and construction activities may involve the limited transport, storage, use or disposal of hazardous materials, such as the fueling/servicing of construction equipment onsite or the removal and export of contaminated soils, the activities would

be short-term or one-time in nature and would be subject to federal, state, and local health and safety requirements. Impacts related to grading and construction activities would be less than significant.

Long-term operation of the Project would involve transport, storage, use or disposal of hazardous materials. Water treatment chemicals would be utilized at the WTP site, including compressed liquid oxygen, potassium permanganate, polyaluminum chloride, sodium hypochlorite, sodium hydroxide, calcium thiosulfate, citric acid, and sodium bisulfite. Small quantities of petroleum products, thinners, and paints would also likely be stored on-site. Liquid oxygen and potassium permanganate are oxidizers and are highly flammable in the presence of an ignition source. Sodium hypochlorite, sodium hydroxide, and polyaluminum chloride are caustic materials which can cause burns in high concentrations. Citric acid is a weak acid which can cause burns in high concentrations.

There are a number of federal, state and local requirements and regulations that are designed to minimize risks from accidental releases of hazardous materials and the Project will be in compliance with all the applicable requirements and regulations. Hazardous material storage and use areas at the WTP will be built and operated in compliance with the minimum requirements of the Uniform Fire Code and the California Fire Code. Some of the requirements are secondary containment for liquids, fire water sprinklers over inside storage/use areas, and non-combustible building construction. Additionally, the WTP buildings will be constructed in compliance with the California Building Code, which requires design features to resist forces generated by a major earthquake with limited architectural or structural damage and to provide adequate fire protection that precludes accidental releases of hazardous chemicals due to fire.

With implementation of the proposed Project, there are no reasonably foreseeable upset and accident conditions that would create a significant hazard to the public due to the release of hazardous materials. Impacts are considered less than significant.

Question E:

The Project site is not on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (ESP, 2008).

Question F:

The Project site is not located within any airport safety zones per the City's Airport Land Use Plan for the Paso Robles Municipal Airport and is not located within two miles of the airport.

Question G:

During construction of the proposed Project, there is a possibility that the existing roadway may be part of an emergency response plan or emergency evacuation plan and would experience potential interference with such plans. However, such interference

would only occur occasionally during the construction period. Additionally, a Traffic Safety Plan would be implemented (see Mitigation Measure TRA-1). Therefore, these potential temporary interferences on the roadway would result in less than significant impacts to emergency response and evacuation.

Question H:

The Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires. The existing Project site is an urbanized area with no wildland areas adjacent in proximity to the site. Therefore, impacts are not considered significant.

3.7.4 Finding

Hazards and hazardous materials impacts would be less than significant. No mitigation is required.

3.8 HYDROLOGY AND WATER QUALITY

Would the proposal result in or expose people to potential impacts involving:	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge or the direction or rate of flow of ground-water such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-or off-site?	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course or stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐
f) Otherwise substantially degrade surface or groundwater quality?	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami or mudflow?	☐	☐	☒

3.8.1 Environmental Setting

The Project area is located in the upper Salinas River watershed. The upper watershed begins at the headwaters southeast of Santa Margarita Lake and extends to the town of

Bradley, just inside Monterey County. The Salinas River is the primary hydrologic feature in Paso Robles. Although substantial subsurface flows occur throughout the year, the river is virtually dry on the surface from July through September. Peak flows typically occur during the months of January to March and are largely controlled by the Santa Margarita Lake and Dam, located approximately 20 miles upstream of the City. Downstream, tributary flows to the river are regulated by the Nacimiento Reservoir and Dam on the Nacimiento River, and the San Antonio Reservoir and Dam on the San Antonio River. Data from the U.S. Geological Survey (USGS) gauging station in Paso Robles (for the years from 1939 to 2004) indicate that mean monthly stream flows in the Salinas River typically range from about 398 cubic feet per second (cfs) in February to about 0.051 cfs in August. Since 1995, the highest recorded monthly average flow was 2,884 cfs in February 1998. In addition to the river, several smaller intermittent creeks flow through the Paso Robles area. These creeks carry runoff from the hills east and west of the City and discharge to the Salinas River. The most important of these is Huerhuero Creek, which carries runoff from the northeastern portion of the City to the Salinas River.

Groundwater is the primary source of water supply in the City. The City derives its water from both Salinas River underflow and a regional aquifer known as the Paso Robles Groundwater Basin. The Paso Robles Groundwater Basin encompasses an area of approximately 505,000 acres (790 square miles). In general, groundwater flow moves northwest across the basin towards the Estrella area, then north towards the basin outlet at San Ardo. The biggest change in groundwater flow patterns in recent years has been the hydraulic gradient east of Paso Robles, along the Highway 46 corridor, which has steepened in response to greater pumping by the increasingly concentrated development of rural ranchettes, vineyards, and golf courses. The City is participating in the NWP to utilize Nacimiento Reservoir water so that it can reduce dependence on groundwater to meet municipal water demand (City of Paso Robles Water Division 2005). This Project will treat a portion of NWP-derived water.

3.8.2 Regulatory Setting

3.8.2.1 Agencies

Due to a variety of uses and impacts, and because of its importance to development, a complex web of laws and agencies have developed over time to control and manage water resources. Agencies with significant responsibility for some aspect of water planning are briefly described below:

- As Lead Agency, the City has ultimate regulatory authority over the Project. The City's General Plan provides policies intended to address impacts associated with flooding and drainage hazards. The City will review Project documents and issue approvals for the Conditional Use Permit, and grading/building permits.

- The **State Water Resources Control Board (SWRCB)** and the **Central Coast Regional Water Quality Control Board** (RWQCB) are the agencies designated by the State of California to protect water quality of all water resources in the state and Central Coast region, respectively;

- The **United States Army Corps of Engineers** (USACE) is a federal agency with permit authority over any filling of a waterway or wetlands;

- The **California Department of Fish and Game** (CDFG) is a state agency with permit authority for any modification of a waterway (such as a bridge). Its primary concern is fish and wildlife habitat;

Other agencies with some interest in water or water quality are the USFWS, and the U.S. EPA.

3.8.2.2 Regulatory Codes and Acts

Federal Clean Water Act and the State of California Porter-Cologne Act. The RWQCB establishes water quality standards that are required by Section 303 of the Federal Clean Water Act and the state Porter-Cologne Water Quality Act. The SWRCB has adopted a NPDES general permit for Storm Water Discharges Associated with Construction Activity (State Permit) that requires every construction Project greater than one acre to submit a Notice of Intent (NOI) for coverage, and prepare and implement a Storm Water Pollution Prevention Plan (SWPPP).

Under the conditions of the state permit, the Project site would be required to eliminate or reduce non-storm water discharges to waters of the nation, develop and implement a SWPPP for the Project construction activities, and perform inspections of the storm water pollution prevention measures and control practices to ensure conformance with the site SWPPP. The state permit prohibits the discharge of materials other than storm water discharges, and prohibits all discharges that contain a hazardous substance in excess of reportable quantities established at 40 Code of Federal Regulations (CFR) 117.3 or 40 CFR 302.4. The state permit also specifies that construction activities must meet all applicable provisions of Sections 301 and 402 of the Clean Water Act.

3.8.3 Answers to Checklist Questions:

Question A:

Temporary impacts to water quality during construction of the proposed Project could occur due to the operation of heavy equipment, disturbance and stockpiling of soils, and dewatering (if necessary) of trenches. The City would implement BMPs for construction activity to limit sedimentation in the Salinas River. To do this, the City would develop in detail a Project-specific Construction Storm Water Plan in conjunction with the Project's final design and grading plan. Elements covered in the program would include: (a) soil stabilization, (b) sediment control, (c) tracking control, (d) material and waste management, (e) dust control, (f) vehicle and equipment BMPs, and (g) dewatering measures (see Mitigation Measure HWQ-1). Specific details are provided in the City's Construction Site Storm Water Quality Requirements (Appendix C).

Dissolved constituents in storm water discharges from the site after the Project is completed do not represent a potential water quality impact. Storm water runoff typical

of developed urban uses is not applicable to this Project. Operation of the Project would not result in a deterioration of the quality of the receiving surface waters.

Question B:

The Project would not significantly deplete or interfere with groundwater supplies. The proposed Project is a part of the larger Nacimiento Water Pipeline Project being constructed by the San Luis Obispo County Flood Control and Water Conservation District. The NWP Environmental Impact Report (MRS, 2003) included discussion of the impacts of the use of water from the Nacimiento Lake on water resources to the Salinas River groundwater basin downstream of the Nacimiento Dam. Refer to the NWP EIR for more information on the impacts and mitigation measures identified for the larger NWP Project (MRS, 2003).

Questions C and D:

The Project could potentially involve the alteration of the source of a stream or river that would result in substantial erosion, siltation, or flooding on or off-site. Utilization of trenchless technology for the pipeline crossing the Salinas River would mitigate the potential impact to less than significant. In addition, a Streambed Alteration Agreement would be obtained from the CDFG if the Project will result in disturbance to the riparian vegetation or bed/bank of the Salinas River. As discussed previously, the Project would not result in a significant increase in the rate and amount of surface runoff.

Questions E and F:

On-site flooding would be generally limited to periodic heavy rainfall events. It is anticipated that the existing stormwater runoff capacity would be sufficient to handle the small increase in off-site runoff; therefore, the Project would not result in a substantial risk of off-site flooding or additional sources of polluted runoff.

The Project would not introduce impervious surfaces. The City would be required to obtain coverage under the State Permit for storm water drainage. The State Permit prohibits the discharge of materials other than storm water discharges, and prohibits all discharges that contain a hazardous substance in excess of reportable quantities established at 40 Code of Federal Regulations (CFR) 117.3 or 40 CFR 302.4. Under the conditions of the state permit, the Project site would be required to eliminate or reduce non-storm water (point source) discharges to waters of the nation, develop and implement a SWPPP for the Project construction activities, and perform inspections of the storm water pollution prevention measures and control practices to ensure conformance with the site SWPPP. Furthermore, the state permit also specifies that construction activities must meet all applicable provisions of Sections 301 and 402 of the Clean Water Act. Conformance with Section 402 of the CWA would ensure that the Project does not violate any water quality standards or waste discharge requirements and would ensure that the Project would not substantially degrade surface or groundwater quality. Standard erosion control devices installed as part of the SWPPP are being implemented as part of Project construction activities.

It is very likely that elements of the Construction Storm Water Plan and SWPPP would overlap; however, both would be required to be implemented due to the formalities of City and State requirements. As such, an additional mitigation measure has been included to ensure compliance with State NPDES requirements in addition to the City-required Construction Storm Water Program (see Mitigation Measure HWQ-2).

Question G:

The Project would not involve the construction and placement of housing within a Federal Emergency Management Agency 100-year flood zone.

Question H:

The City would implement measures to control erosion and sedimentation during construction. The WTP facility would be located entirely outside of the 100 year floodplain. Construction of the proposed WTP is not expected to change the established 100-year floodplain boundary. With implementation of engineering design standards and mitigation measures, the Project would not result in any significant impacts to floodplains.

Question I:

Due to its distance from the ocean and other large bodies of water, there is a negligible likelihood that the Project site would be affected by either dam failure and inundation or the effects of a tsunami.

3.8.4 Mitigation

Mitigation Measure HWQ-1: City shall develop in detail a Construction Storm Water Plan in conjunction with the Project's final design and grading plan for implementation during construction activities. Specific details are provided in the City's Construction Site Storm Water Quality Requirements (Appendix C). Elements covered in the program would include:

- soil stabilization;
- sediment control;
- tracking control;
- material and waste management;
- dust control;
- vehicle and equipment BMPs, and,
- dewatering measures.

Mitigation Measure HWQ-2: In order to ensure compliance with State requirements, the City shall file a Notice of Intent to Comply with NPDES requirements with the SWRCB and develop a SWPPP incorporating elements of the Construction Storm Water Plan above, and any additional measures required by the NPDES permit.

Mitigation Measure HWQ-3: In order to ensure compliance with State requirements, the City shall obtain a Streambed Alteration Agreement from the California Department of Fish and Game (CDFG) if Project will result in disturbance to the riparian vegetation or bed/bank of the Salinas River

3.8.5 Finding

With the incorporation of mitigation, impacts to hydrology and water quality would be less than significant.

3.9 LAND USE AND PLANNING

Would the proposal:	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant Impact
a) Physically divide an established community?	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒

3.9.1 Setting

The Project is zoned Public Service (PS) and Industrial (M) which reserves areas primarily for industrial uses.

3.9.2 Answers to Checklist Questions

Question A:

Implementation of the Project would not physically divide an established community. No urban development is proposed as part of the Project.

Question B:

Implementation of the proposed Project would not conflict with allowable uses under the General Plan land use designations and/or City zonings. The Project may require a Streambed Alteration Agreement with the California Department of Fish and Game under Section 1602 of the California Fish and Game Code. With the implementation of proposed mitigation measures contained in this document, the Project would not conflict with any adopted policies, plans or regulations.

Question C:

The Project site is located at the City's existing Thunderbird Well Field with the pipeline alignment extending north of the Water Treatment Plant through an existing agricultural parcels, and then east under the Salinas River. Because of the site's historically urban/industrial uses and its location in an urbanized setting, no habitat conservation plans would apply to the Project site. No impact would result from Project development, and no mitigation measures are necessary.

3.9.3 Finding

The Project would result in less than significant impacts to land use and planning.

3.10 MINERAL RESOURCES

Would the proposal result in impacts to:	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant Impact
a) Result in a loss of availability of a known mineral or other natural resource (timber, oil, gas, water, etc.) that would be of value to the region and the residents of the state?	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒

3.10.1 Answers to Checklist Questions

Questions A and B:

The site does not provide any known mineral or natural resources, such as timber, oil, or gas that would be of value to the region and the residents of the state. A sand and gravel mining operation located east of the pipeline alignment west of the Salinas River will not be impacted by the proposed Project.

3.10.2 Finding

The Project would result in no significant impacts to mineral resources.

3.11 NOISE/VIBRATION

Would the proposal result in:	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant 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?	☐	☒	☐
b) Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☐	☒
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☒
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?	☐	☐	☒

Environmental Setting

Noise is generally defined as “unwanted sound.” It consists of any sound that may produce physiological or psychological damage and/or interfere with a person’s communication, work, rest, recreation, and sleep. While hearing impairment and other physical damage does occur from high noise levels, the damage in terms of quality of life from stress and annoyance is much more widespread.

Sound intensity or acoustic energy is measures in decibels (dB). A-weighted decibels correct for the relative frequency response of the human ear. For example, an A-weighted noise level includes a de-emphasis on high frequencies of sound that are heard by a dog’s ear, but not by a human ear. Ambient community sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect our ability to hear. Pitch is the number of complete vibrations (cycles per second) of a wave that results in the tone’s range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment. It is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the

sound waves combined with the reception characteristics of the ear. The sound intensity refers to how hard the sound wave strikes an object, which, in turn, produces the sound's effect. This is a characteristic of sound which can be precisely measured with instruments.

Many noise rating schemes exist for various time periods, but an appropriate rating of ambient noise affecting human communities would also account for the annoying effects of sound. The predominant rating scales for human communities are the Noise Equivalent Level (L_{eq}), the Community Noise Equivalent Level (CNEL) and the Day/Night Average Sound Level (L_{dn}) based on A-weighted decibels (dBA). The Leq is the total sound energy of time varying noise over a sample period. The CNEL is the time varying noise over a twenty four hour period with A-weighting factor applied to noises occurring during evening hours from 7:00 p.m. to 10:00 p.m. (relaxation hours) and at night from 10:00 p.m. to 7:00 a.m. (sleeping hours) of 5 and 10 dB, respectively.

The L_{dn} measure is an average of the A-weighted sound levels experienced during a 24-hour period. Unlike the CNEL (which divides the 24-hour period into three periods), the Ldn divides the 24-hour period into only two periods. The Ldn identifies day (7:00 a.m. to 10:00 p.m.) and night (10:00 p.m. to 7:00 a.m.) periods, eliminating the evening hours as more sensitive than the daytime. Since nighttime noise levels are considered more annoying, these measurements are increased by 10 dB before averaging along with the daytime levels. Although not as sensitive a measure as the CNEL, for most transportation noise sources the two measures (CNEL and L_{dn}) are essentially equal and may be used interchangeably.

The major noise sources in the Project area consist of the Union Pacific Railroad, U.S. Highway 101, and industrial uses in the vicinity of the Project site. Roadway noise is a combination of direct noise emissions from vehicles and the sound from tires passing over the road surface. In addition, large truck traffic can dramatically contribute to roadway noise, as the sound generated from jake-brakes, large tires, and diesel engines greatly exceeds noise from passenger cars and light trucks.

Standards of Significance

CEQA Guidelines suggest that implementation of a Project would result in significant noise impacts if the Project would result in any of the following:

- Exposure of persons to, or generation of, noise levels in excess of standards established in the local plans or ordinances;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial permanent increase in ambient noise levels in the Project vicinity above levels without the Project;
- A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project;

- 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, where the Project would expose people residing or working in the area to excessive noise levels; and,

- For a Project within the vicinity of a private airstrip, where the Project would expose people residing or working in the Project area to excessive noise levels.

Answers to Checklist Questions

Questions A and B:

The proposed Project alignment would be located in the vicinity of noise sensitive land uses including single-family residences and parks located north and south of the Project site along the pipeline route east of the Salinas River.

Noise and ground-borne vibration generated by construction activity includes the operation of equipment such as compacters, loaders, backhoes, excavators, scrapers, haul trucks, and drilling equipment, which generate noise levels ranging from about 70 to 95 dB at 50 feet from the source (although the type of equipment being used for this Project would generally run at 80 to 85 dbA) (EPA, 1971). Noise levels attenuate at 6 dBA per doubling of distance. Therefore, at worst-case, exterior areas up to 1,600 feet away would be subject to noise levels of 65 dBA; however, these levels are not expected to be consistently sustained and would generally be episodic. Furthermore, noise levels would be further attenuated by buildings and trees, and therefore, worst-case noise levels would be very unlikely.

The City Noise Element of the General Plan includes noise reduction measures to be incorporated into contract specifications including the use of sound-control devices on equipment, avoiding idling equipment, and public notification of proposed construction activities. In addition to these standard requirements, use of HDD boring equipment shall not be allowed east of the Salinas River between the hours of 7:00 pm and 7:00 am to avoid significant noise disruption to existing residential uses in the vicinity of the future Charolais Road alignment. Compliance with the City Noise Element and establishment of hours of construction for boring activities would mitigate potential noise impacts to a level of insignificance. Noise impacts to these residences would be limited to approximately five week duration of activity between June and September of 2009.

Project activities affecting sensitive noise receptors would not occur for more than a timeframe of 30 to 45 days. Therefore, with implementation of Mitigation Measure NOI-1, impacts to noise-sensitive receptors would be less than significant.

Question C:

In the long-term, there would be no additional increase in ambient noise levels over and above existing levels. There would be no addition of stationary noise sources associated with any portion of the proposed Project.

Question D:

At locations within the immediate vicinity of Project construction activities, there would likely be a significant but temporary increase in noise levels. Mitigation Measure NOI-1 would serve to reduce this impact to the extent feasible by limiting activity to the daytime hours and by the use of noise-muffling equipment.

Question E and F:

The Project is not located within an airport land use plan.

Mitigation

Mitigation Measure NOI-1. The City shall ensure that the construction contractor employs the following noise reducing measures during construction activities :

- Construction activities shall be limited to between 7:00 a.m. and 7:00 p.m. Monday through Friday, except for the Horizontal Directional Drilling Construction. No construction activities shall take place. on Saturdays or Sundays or federal or state holidays; or
- The Public Works Director shall review and approve any proposed construction activities to be conducted during nights and weekends; and
- All equipment shall have sound-control devices no less effective than those provided by the manufacturer. No equipment shall have un-muffled exhaust pipes.

Finding

Impacts related to noise would be limited to the short-term and would be minimized with the implementation of Mitigation Measure NOI-1.

3.12 POPULATION AND HOUSING

Would the proposal:	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant Impact
a) Cumulatively exceed official regional or local population Projections?	☐	☐	☒
b) Substantially change the demographics in the area?	☐	☐	☒
c) 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)?	☐	☐	☒
d) Substantially alter the location, distribution, or density of the area's population?	☐	☐	☒
e) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒
f) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☒
g) Conflict with adopted housing elements?	☐	☐	☒

3.12.1 Answers to Checklist Questions

Questions A through D:

The proposed Project is a part of the larger Nacimiento Water Pipeline (NWP) Project being constructed by the San Luis Obispo County Flood Control and Water Conservation District. The NWP Environmental Impact Report (MRS, 2003) included discussion of the growth-inducing impacts associated with the NWP. Refer to the NWP EIR for more information on the impacts and mitigation measures identified for the larger NWP Project (MRS, 2003).

~~The Project does not include any infrastructure or development that would affect existing population and housing, or induce growth in the City. Rather, the proposed Project is solely designed to remediate the damaged parking lot at City Hall to its previous condition and to build a conveyance pipeline to dispose of the sulfur spring water.~~

Additionally, workers performing Project construction would most likely come from the local community or nearby communities and would not create an indirect need for short- or long-term housing. The Project would also not substantially change the demographics of the area.

Questions E and F:

Implementation of the Project would not result in the displacement of any residential housing or result in the need to construct replacement housing elsewhere.

Question G:

Because the Project would not generate a direct or indirect need for housing, substantially alter demographics or growth rates in the City, it would not conflict with the adopted General Plan Housing Element.

3.12.2 Finding

The Project would result in less than significant impacts to population and housing.

3.13 PUBLIC SERVICES

Would the proposal have an effect upon or result in a need for new or altered government services in any of the following areas:	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant Impact
a) Fire protection?	☐	☐	☒
b) Police protection?	☐	☐	☒
c) Schools?	☐	☐	☒
d) Parks?	☐	☐	☒
e) Electrical power or natural gas?	☐	☐	☒
f) Communication?	☐	☐	☒
g) Other public or utility services?	☐	☐	☒

3.13.1 Environmental Setting

3.13.1.1 Fire Protection

The Paso Robles Fire Department (FD) employs a total of 20 uniformed members, consisting of 18 firefighters, one Deputy Chief, and one Fire Chief. The FD staffs two locations; 900 Park Street and 235 Santa Fe Avenue. Each of the stations is staffed round-the-clock with three firefighters, which includes a minimum of one licensed paramedic at each location. Hospital transport is provided by a private ambulance service working in conjunction with the FD.

3.13.1.2 Police Protection

Law enforcement services to the City of Paso Robles are provided by the City of Paso Robles Police Department (PD) from their Main Station located at 900 Park Street in Paso Robles. The Main Station is currently staffed with 37 full-time sworn officers including one chief; two lieutenants, five sergeants, an arson investigator, school resources officer, and three

detectives. The Police Department also has 11 non-sworn personnel. Available patrol personnel include a total of 19 officers and four patrol sergeants. There are various other specialty assignments including traffic enforcement, narcotics, DARE, K-9, and others. The PD's goal for response time is three to five minutes.

3.13.2 Answers to Checklist Questions

Questions A and B:

Construction of the WTP facilities will take place at the existing Thunderbird Wellfield site. Access to the site will be via the City's existing access road from Ramada Drive. Standard traffic control measures and safety procedures would alleviate any emergency access concerns. Implementation of the proposed Project would include primary fire protection concerns, chemical delivery, storage and handling of chemicals utilized in the WTP process. Site Health and Safety Plan and material handling SOPs will provide for safe handling of process chemicals.

In the long term, the development of the proposed Project would not have a significant impact on the ability of the FD to respond to emergencies with its current personnel and equipment.

The Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities to maintain acceptable service ratios, response times or other performance objectives for police protection. Vandalism, theft of construction materials and equipment and burglary would be of potential concern during construction. Considering the temporary duration of construction and the nature of the finished Project, the potential impacts to police protection would be less than significant.

Question C:

The proposed Project would not affect schools.

Question D:

The proposed Project may temporarily affect nearby parkland adjacent to the proposed pipeline route; however, mitigation measures presented herein, including noise, erosion control, and traffic control, would be implemented to reduce impacts to the extent feasible.

Questions E and F:

The Project would not have an effect on electrical power, natural gas or communication services. A natural gas-powered standby engine generator will be provided to provide emergency power to the WTP in case of a Pacific Gas and Electric Company (PG&E) electrical power failure. Power supply, as well as back up generation gas supply would not have an effect on existing services.

Question G:

The construction of the Project is unlikely to affect other public services, such as drainage, wastewater service, and water service. Please refer to Section 3.16 Utilities and Service Systems.

3.13.3 Finding

The Project would result in less than significant impacts to public services.

3.14 RECREATION

Would the proposal result in impacts to:	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant Impact
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒

3.14.1 Answers to Checklist Questions

Questions A and B:

The nearest park to the Project site is Lawrence Moore Park and the Salinas Riverwalk trail area, located along Riverbank Lane north of the Charolais Road alignment portion of the Project. The Project would not increase the demand for existing neighborhood or regional parks or other recreational facilities beyond the facilities existing in the City. The proposed Project may temporarily affect nearby parkland adjacent to the proposed pipeline route; however, mitigation measures presented herein, including noise, erosion control, and traffic control, would be implemented to reduce impacts to the extent feasible.

3.14.2 Finding

The Project would result in less than significant impacts to recreation.

3.15 TRANSPORTATION AND CIRCULATION

Would the proposal result in:	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant Impact
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system?	☐	☒	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads and highways?	☐	☐	☒
c) Substantially increase hazards due to design features (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☒
d) Result in inadequate emergency access?	☐	☒	☐
e) Result in inadequate parking capacity onsite or offsite?	☐	☐	☒
f) Conflict with adopted policies supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☒
g) Conflict with the with San Luis Obispo County Airport Land Use Plan resulting in substantial safety risks from hazards, noise, or a change in air traffic patterns?	☐	☐	☒

3.15.1 Environmental Setting

Roadways that provide primary circulation near the Project site include a system of streets, with Ramada Drive being the primary north-south route to the property. Project-affected roadways include Ramada Drive, Riverbank Lane, Niblick Road, and South River Road.

3.15.2 Existing Project Area Conditions

Level of Service Criteria. The operating conditions experienced by motorists are described as “levels of service” (LOS). LOS is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions, freedom to maneuver, driving comfort, and convenience. Levels of service are designated “A” through “F” from best to worst, which cover the entire range of traffic operations that may occur. Levels of service “A” through “E” generally represent traffic volumes at less than roadway capacity, while LOS “F” represents over capacity and/or forced flow conditions.

Existing Traffic Conditions. The significant street serving the Project site is Ramada Drive. According to the Year 2005 Daily Travel Projections Map of the City of Paso Robles General Plan, the portion of Ramada Drive in the area of the proposed Project has been Projected to carry approximately 20,490 average daily trips (ADT).

3.15.3 Answers to Checklist Questions

Questions A and B:

Ramada Drive, Riverbank Lane, South River Road, and Niblick Road will all provide access for the Project. This traffic could include construction activities such as heavy equipment entering and exiting. Construction activities associated with the proposed conveyance pipeline would take place entirely within the Thunderbird Wells property, Salinas River and through the construction easement. Construction vehicles used to haul Project materials, such as earth material, water main segments, and general construction equipment (e.g. backhoe) could potentially utilize Ramada Drive, South River Road, and Niblick Road. Minor, short-term impacts would also occur to traffic and circulation from the arrival and departure of work trucks during peak traffic periods. Truck trips would be limited to worker trips and materials deliveries.

No long-term impacts resulting in increased congestion or traffic delays would occur with implementation of the Project.

Question C:

There would be no design features that would increase hazardous conditions or incompatible uses in the Ramada Drive, Riverbank Lane, South River Road, or Niblick Road.

Question D through F:

The Project site should not conflict with emergency access routes for the duration of construction activities. The proposed Project is an underground water line and would not affect any emergency response plans or evacuation plans. Parking capacity should not be affected by the Project.

Question G:

The Project would not conflict with the Paso Robles Airport Land Use Plan and would not result in substantial safety risks from hazards, noise, or a change in air traffic patterns.

3.15.4 Mitigation Measure

Mitigation Measure TRA-1.

- To the maximum extent feasible, construction-related vehicles would be prohibited from parking on residential streets; and,
- Construction equipment and vehicle staging would be located to hinder the traffic flow as little as possible in the areas where the actions are implemented.

3.15.5 Finding

With implementation of mitigation, impacts to transportation and circulation would be less than significant.

3.16 UTILITIES AND SERVICE SYSTEMS

Would the proposal result in the need for a new systems or supplies, or substantial alterations to the following utilities:	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant Impact
a) Substantially accelerate physical deterioration of public and/or private roads?	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction which could cause significant environmental effects?	☐	☐	☒
d) Have sufficient water supplies (including fire flow) available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒

3.16.1 Environmental Setting

Water

The City derives its water from two sources, the Salinas River alluvial flow and the Paso Robles Groundwater Basin, which is a regional aquifer. The two sources are replenished primarily from uncontrolled runoff originating from several major and minor stream tributaries of the Salinas River, from wastewater treatment plant discharge of effluent into the Salinas River, and to a lesser extent, direct infiltration from precipitation and irrigation. The State allocates eight cfs of water from the Salinas River to the City of Paso Robles (City General Plan, 2003).

Wastewater

The City Department of Public Works operates and maintains the City's wastewater treatment plant, which is located at 3200 Sulphur Springs Road. All City wastewater is pumped to the Sulphur Springs treatment plant, where it is treated by the secondary trickling filtration method. Ultimately, the treated wastewater effluent is discharged into the Salinas River, and dried solids are disposed of at the City Landfill as vegetative cover. The permitted capacity of the City plant is 4.9 million gallons per day (mgd). The current average daily sewage flow into the plant is 2.8 mgd. The sewerage system divides collection into primary east-side versus west-side sewage flows. Two primary lines merge inside the wastewater plant, ultimately converging as a single source of effluent at the treatment plant.

Solid Waste

Solid waste collection service in the City is provided by Paso Robles Waste Disposal Company, contract hauler for the entire City of Paso Robles. Solid waste is collected and disposed of at the Paso Robles Landfill, located east of City limits, at 9000 Highway 46 East. The landfill is a Class III facility owned by the City of Paso Robles and managed by Pacific Waste Services, Inc. The 80-acre landfill has been operating since 1970. The landfill accepts construction/demolition, industrial, mixed municipal, sludge, and tire waste.

The landfill has a permitted design capacity 6,495,000 cubic yards, with a remaining capacity of 4,533,216 cubic yards, as of June 28, 2001. An average of 200 tons of waste are brought to the landfill daily, with a permitted maximum daily tonnage of 250 tons per day. During the year 2000, approximately 41,142 tons of waste was disposed of at the landfill (California Integrated Waste Management Board, "Solid Waste Information System", 2000). The landfill has a remaining 65 acres with an estimated lifespan of approximately 2034.

3.16.2 Answers to Checklist Questions

Questions A:

The proposed Project would not add additional permanent vehicle trips to Project area roadways; therefore, there would be a less than significant impact.

Question B:

The proposed Project would construct a new Water Treatment Plant and 16-inch diameter ductile iron water transmission line to extend from the WTP Site to a tie-in point in the existing water system at the intersection of Charolais Road and South River Road. As such, this document analyzes the potential environmental effects resulting from implementation of the Project. Impacts are subject to mitigation measures that will reduce them to a less than significant level.

No wastewater treatment facilities or expansion of existing facilities would occur.

Question C:

The proposed Project involves the construction of a new Water Treatment Plant and water transmission line. This Initial Study includes an analysis of the potential environmental impacts resulting from implementation of the Project and mitigation measures have been included to reduce the level of potentially significant impacts.

Question D:

The Project would not be required to be served by existing water supplies as no development is proposed in conjunction with the Project.

Question E:

The Project would not affect wastewater treatment capacity.

Questions F and G:

The Project may generate solid concrete, asphalt, scrap pipe, and other construction wastes. The majority of these wastes would be recycled, in accordance with existing City waste diversion requirements. No additional waste would be generated by the Project upon completion.

3.16.3 Finding

No mitigation measures beyond those proposed throughout the document would be necessary to reduce significant impacts to utilities and service systems.

3.17 MANDATORY FINDINGS

	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less than Significant 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?	☐	☒	☐
b) Does the Project have environmental impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?	☐	☒	☐
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐

3.17.1 Mandatory Findings of Significance Discussion

A. As discussed in the preceding sections, the Project does have the potential to significantly degrade the quality of the environment, including effects on animals, or plants, or to eliminate historic or prehistoric resources unless mitigated.

B. When Project impacts are considered along with, or in combination with other impacts, the Project-related impacts may be significant. Mitigation measures have been incorporated into the Project to reduce Project-related impacts to a less than significant level.

C. The Project does not have environmental effects that could cause substantial adverse effects on human beings, either directly or indirectly. Mitigation measures have been developed that would reduce the impacts to a less than significant level.

4.0 DETERMINATION

On the basis of the 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 the project-specific mitigation measures described in Section 3.0 have been added to the project. 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.

Signature: _____ Date: _____

Doug Monn_____ City of Paso Robles

Printed Name

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APPENDIX A
BIOLOGICAL SURVEY REPORT

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

REVISED

BIOLOGICAL RESOURCES SURVEY REPORT FOR THE CITY OF PASO ROBLES WATER TREATMENT PLANT AND MAIN EAST PIPELINE PROJECT PASO ROBLES, SAN LUIS OBISPO COUNTY, CALIFORNIA

Prepared for:

City of Paso Robles
Public Works Department
Under Subcontract to:
Black and Veatch Corp.
Walnut Creek, California

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1.0 INTRODUCTION

Padre Associates, Inc. (Padre) is pleased to present this report documenting the recent biological resources survey, including a spring botanical survey, conducted at the proposed Water Treatment Plant (WTP) facilities and associated Main East transmission pipeline corridor located east of Ramada Drive in the City of Paso Robles (City), San Luis Obispo County, California (Project Site). The primary objectives of the biological resources surveys were as follows: 1) determine the type and extent of plant communities present within the proposed project work limits and adjacent areas; 2) identify potentially impacted oak trees within project limits; and, 3) identify special-status plant and wildlife species, or known habitat of special-status species. Further, this Biological Resources Survey Report (Report) is intended to support project permitting with the appropriate regulatory agencies. The field survey supporting this Report was conducted on April 16, 2008, which included a preliminary literature review described within this Report.

1.1 Project Location

The Project Site is located east of Ramada Drive, approximately 1.5-miles south of Niblick Road Bridge, Paso Robles, San Luis Obispo County. The location is illustrated on the following Figure 1 – Site Vicinity Map.

1.2 Background

Based upon information provided by Black and Veatch Corporation (B&V), the City is proposing to construct a new WTP to treat surface water received from Lake Nacimiento. The City is a Project Participant in the Nacimiento Water Project (NWP) currently being implemented by the San Luis Obispo County Flood Control and Water Conservation District. The NWP will supply raw water from Lake Nacimiento to communities within San Luis Obispo County, including the City. The WTP will be constructed within the Thunderbird Well Field which currently pumps groundwater from the existing facilities, through a 16-inch pipeline to the City's Main East Line. The new WTP and transmission pipeline will be constructed along the existing facilities. The WTP will provide additional treated water supplies to the City's distribution system west and east zones to increase supply reliability (especially in the summer months), provide a higher quality supply to existing customers, and to address increasing water demands within the City's service area.

1.3 Project Description

The proposed project will include a WTP, Treated Water Reservoir and Pump Station, Transmission Pipeline, and Appurtenances and other Site improvements (see Figure 2 – Site Plan). The proposed WTP facilities will be located within an existing Thunderbird Well Field located in the southern part of the City, immediately west of the Salinas River. The proposed transmission pipeline will connect the WTP with the City's existing east zone 16-inch pipeline to a new 24-inch pipeline and both will connect with the Main East distribution system at South River Road and Charolais Road. The new 24-inch pipeline will be approximately 7,800 feet long passing through agricultural land and the Salinas River, parallel to the existing 16-inch pipeline. A horizontal directional drilling (HDD) method will be used to install an 800-foot reach of the pipeline that crosses the Salinas River, and an open trench method will be used to install the

remainder of the pipeline. All HDD activities will be conducted outside of the bed, banks, and channel of the Salinas River and no riparian vegetation will be impacted as a result of the project.

For the purposes of this Report, the Biological Survey Area (BSA) was limited to the WTP location, adjacent habitat areas, and the proposed location for the approximate 7,800-foot water pipeline (see Figures 3 and 4 – Plant Community Map/Tree Inventory).

2.0 ENVIRONMENTAL SETTING

The City of Paso Robles lies within the Coastal Ranges Geomorphic Province of California, an area of mountain ranges with intervening valleys. The topography varies from relatively flat, low-lying flood plain areas to rolling hills and the steeply sloping foothills of the Santa Lucia Range. The City lies within the Salinas River watershed. The upper watershed begins at the headwaters southeast of Santa Margarita Lake and extends to the town of Bradley, just inside Monterey County. The Salinas River is the primary hydrologic feature in Paso Robles. Although substantial subsurface flows occur throughout the year, the river is virtually dry on the surface from July through September with peak flows typically occurring in the months of January to March.

The Biological Study Area (BSA) is bounded to the west by the Union Pacific Railroad (UPRR) and Highway 101 and to the east by the Salinas River. The Salinas River is a multi-braided system that contains sandbars and gravelly areas in between patches of riparian or marsh vegetation. The east side of the Salinas River consists of fallowed agricultural fields and residential home-sites. An unnamed, ephemeral blue-line tributary lies directly south of the Project Site and intersects with the Salinas River. Along the banks of both the Salinas River and the unnamed tributary consist of dense riparian vegetation. North of the WTP, the land has historically been used for agriculture and is currently fallow.

The portion of the Project Site where the WTP facilities will be constructed is the current location for the City of Paso Robles Thunderbird Well Field. The perimeter of this area is protected with chain-linked and barbed-wire fencing. A paved access road to the west of the Well Field connects Ramada Drive to a locked gate accessing the facilities. Inside of the fence line are the City's well production facilities (five (5) small buildings with gravel access roads to each). The vegetation within the Well Field is not currently maintained, or grazed by cattle.

3.0 METHODS

As previously indicated, the primary focus of this assessment is to determine the extent of sensitive biological resources existing within the BSA. Methods for determining the potential presence of sensitive biological resources are described below in further detail.

3.1 Literature Review

Prior to conducting the field survey, a review of the California Department of Fish and Game (CDFG) California Natural Diversity Data Base (CNDDB) was conducted to identify reported occurrences of special-status plant and wildlife species, and sensitive habitats within the vicinity of the BSA including the Paso Robles, Adelaida, Bradley, San Miguel, Ranchito Canyon, Estrella, Creston, Templeton, and York Mountain quadrangles (CNDDB, 2008).

Vegetation/habitat types recorded during the survey were classified based on the California Native Plant Society (CNPS) *A Manual of California Vegetation* (Sawyer and Keeler-Wolf, 1995), *A Preliminary Description of the Terrestrial Natural Communities of California* (Holland, 1986), and the CDFG *List of California Terrestrial Natural Communities Recognized by the Natural Diversity Data Base* (CDFG, 2006).

3.2 Field Survey

A wildlife resources survey was conducted on April 16, 2008 by Padre Biologist, Ms. Thea Benson between the hours of 6:30 am to 3:30 pm within the BSA. The weather during this time was sunny and warm, with little to no wind. The wildlife resources survey focused on special-status wildlife species and sensitive habitats which have the potential to occur within the vicinity of the Project Site and/or surrounding areas. Wildlife species were documented by walking paths of opportunity through existing habitat types and recording species observed by visual observation using 10X50 binoculars, indirect signs (tracks, scat, skeletal remains, burrows, etc.) and/or auditory cues (calls and songs).

A spring botanical survey was also conducted on April 16, 2008 to determine the presence/absence of special-status plants with the potential to occur in the Project Site based on the presence of suitable habitat (see Section 6.0 – Impact Discussion). Padre Biologists Ms. Jessica Peak and Ms. Chris Santala walked transects of opportunity through the existing habitat types and recorded all identifiable plant species present. Plant specimens that were not positively identified in the field were further examined using a dissecting microscope and appropriate botanical keys, including *The Jepson Manual* (Hickman, 1993). This survey also included habitat characterization and identification of jurisdictional wetlands within and adjacent to the Salinas River.

Lastly, Padre Biologists completed a Tree Inventory which included all large trees over 4-inches in Diameter-at-Breast-Height (DBH) within 50-feet of proposed project facilities and pipeline alignments (see Appendix C – Tree Inventory). The DBH and north, south, east and west canopies and Critical-Root-Zones (CRZ) were measured from the base of the trunk to the drip-line (See Figures 3 and 4 – Plant Community Map and Tree Inventory – North/South).

4.0 FINDINGS

The following discussion of biological resources is limited primarily to those resources that were observed within the immediate vicinity of the study area or resources that would be expected to occur and/or frequent a particular area based on the presence of suitable habitat.

4.1 Flora

A list of plant species identified in the BSA during the April 16, 2008 botanical survey is provided as Appendix B (all scientific nomenclature based on Hickman [1993]). A total of 69 vascular plant species were identified within the BSA during the field survey. Plants observed consisted of 29 (42 percent) native taxa and 40 (58 percent) non-native naturalized or planted (landscaping) taxa. The percentage of non-native taxa is considerably greater than for the State as a whole (17.4 percent), reflecting the level of disturbance within the project area associated with agriculture and development.

Based on species composition and life form, the vegetation of the BSA can be divided into six classifications. These classifications include Mixed Riparian Forest, Coyote Brush Series, Riverbed, Ruderal, Agricultural, and Developed. Plant Communities occurring within the BSA are illustrated on Figures 3 and 4 and discussed below in further detail. No wetlands adjacent to the Salinas River were identified within project limits.

Mixed Riparian Forest (RF). This community is dominated by Fremont cottonwood (*Populus fremontii*), and arroyo willow (*Salix lasiolepis*), with frequent occurrences of valley oak (*Quercus lobata*), box elder (*Acer negundo* var. *californicum*), coast live oak (*Quercus agrifolia*), and shining willow (*Salix lucida* ssp. *lasiandra*). Understory consists of coyote brush (*Baccharis pilularis* var. *consaguinea*), poison oak (*Toxicodendron diversilobum*), California coffee-berry (*Rhamnus californica*), blue elderberry (*Sambucus mexicana*), and mule fat (*Baccharis salicifolia*). This habitat occurs adjacent to the active river channel and along the unnamed tributary located south of the proposed WTP (see Figure 3 – Plant Community and Tree Inventory Map – South).

Coyote Brush Series (CBS). This community is dominated by coyote brush with occurrences of California sagebrush (*Artemisia californica*). In addition, ruderal species such as black mustard (*Brassica nigra*), and rip-gut brome (*Bromus diandrus*) were prevalent within the coyote brush habitat. This community is present at the northern end of the proposed pipeline alignment adjacent to and west of the proposed HDD staging area.

Riverbed (RIV). The active channel/riverbed of the Salinas River is comprised of a series of alluvial channels and associated sandbars. Vegetation within the riverbed consists primarily of mule fat with scattered occurrences of arroyo willow and coyote brush.

Ruderal (RU). Ruderal habitat is a term used to describe those areas that have been disturbed by past land-use practices and/or recent ground disturbance. These areas show evidence of previous disturbance from agriculture, grazing, development, and maintenance activities (i.e., mowing). For the purposes of this project, ruderal also represents those areas which are routinely maintained within the project area. Within the BSA, ruderal habitat occurs along the proposed pipeline alignment and WTP. This cover type consists almost entirely of non-native, annual grasses and disturbance-adapted weedy species including rip-gut brome, red brome (*Bromus madritensis* ssp. *rubens*), wild oat (*Avena fatua*), hare barley (*Hordeum murinum* ssp. *leporinum*), redstem filaree (*Erodium cicutarium*), black mustard, poison hemlock (*Conium maculatum*), fiddleneck (*Amsinkia menziesii* var. *intermedia*), horehound (*Marrubium vulgare*), and milk thistle (*Silybum marianum*).

Agricultural (AG). Agricultural areas within the BSA are present along the proposed pipeline alignment between the ruderal habitat that occurs along the railroad tracks and the mixed riparian forest habitat adjacent to the Salinas River. All of the agricultural areas within the BSA were fallow during the April 16, 2008 field survey.

Developed (DEV). Several large developed areas, primarily residential, exist within the BSA east of the Salinas River. These areas contain many of the ornamental/landscape species and ruderal species listed above.

4.2 Fauna

Excluding isolated areas of the Project Site disturbed by the existing Thunderbird Well Field and agriculture, the region supports wildlife habitat along the adjacent Salinas River and the unnamed tributary adjacent to the Well Field. Wildlife habitat value within the existing well field is considered low to moderate, due to the past construction activities and dominance of disturbance-tolerant, non-native vegetation (i.e., annual grasses, etc.). However, considering the relatively good quality of habitat within surrounding areas, a variety of wildlife species are expected to occur on-site. In addition, as determined by review of site records from other environmental documents and range maps including Zeiner et al, (1998, 1990a, 1990b) and Sibley (2003), the Project Site has the potential to support a variety of special-status species.

The project region topography varies from relatively flat low-lying flood plain areas to rolling hills and steeply sloping foothills of the Santa Lucia Range. On both sides of the Salinas River the terrain varies from gently rolling hills with oak savanna and open grassland. Regional and local wildlife movements are expected to be concentrated near topographic features that allow convenient passage, including drainages and ridgelines. The adjacent habitat along the Salinas River is valuable to wildlife as well as aquatic species for cover, foraging, and migration corridors.

Vertebrate species observed include those seen or detected by track, scat, burrows and/or vocalization during the field survey conducted for this proposed project. Complications in the quantitative assessment of terrestrial vertebrate (and terrestrial invertebrate) populations include:

- Many species may occur in the area only for short periods during migrations;
- Many species of amphibians and reptiles become inactive during one or more seasons; and,
- Seasonal or annual fluctuations in climate or weather patterns may confound observations.

Amphibians. Amphibians dependent upon the long-term availability of surface water, such as the California red-legged frog (*Rana aurora draytonii*), Pacific chorus frog (*Pseudacris regilla*) and American bullfrog (*Rana catesbeiana*) could occur throughout the Salinas River drainage. Additionally, the black-bellied slender salamander (*Batrachoseps nigriventris*) and ensatina (*Ensatina eschscholtzii*) are the more common amphibians known to inhabit riparian habitat of adjacent shaded slopes (Rindlaub & Collins, 1998). One amphibian, the western toad (*Bufo boreas*), was observed during the field survey.

Reptiles. Reptile species expected to occur within the BSA based on the presence of suitable habitat include western fence lizard (*Sceloporus occidentalis*), southern alligator lizard (*Elgaria multicarinata multicarinata*), southwestern pond turtle (*Clemmys marmorata pallida*), western rattlesnake (*Crotalus veridus*), California kingsnake (*Lampropeltis getulus*), gopher snake (*Pitophis catenifer*), valley garter snake (*Thamnophis sirtalis fitchi),* striped racer (*Maticophis lateralis*), and ring-neck snake (*Diadophis punctatus*). Two reptiles, the western fence lizard and an unknown garter snake species (*Thamnophis* spp.) were observed within the BSA, during the April 16, 2008 field survey.

Avifauna. The Project Site is located immediately adjacent to the Salinas River, which supports riparian vegetation utilized by a wide variety and a high concentration of migratory birds. Wildlife observations were conducted within the Project Site during mid April; therefore it is expected that migratory breeding birds would have been recorded.

Birds observed in the vicinity of the project area in association with the riparian corridor included black phoebe (*Sayornis nigricans*), white-crowned sparrow (*Zonotrichia leucophrys*), western scrub jay (*Aphelocoma californica*), lesser goldfinch (*Carduelis psaltria*), northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), brewer's blackbird (*Euphagus cyanocephalus*), ash-throated flycatcher (*Myiarchus cinerascens*), Nuttal's woodpecker (*Picoides nuttallii*), orange-crowned warbler (*Vermivora celata*), Wilson's warbler (*Wilsonia pusilla*), California thrasher (*Toxostoma redivivum*), golden-crowned sparrow (*Zonotrichia atricapilla*), American robin (*Turdus migratorius*), red-shouldered hawk (*Buteo lineatus*), Bewick's wren (*Thryomanes bewickii*), American crow (*Corvus brachyrhynchos*), spotted towhee (*Pipilo maculatus*), black-headed grosbeak (*Pheucticus melanocephalus*), song sparrow (*Melospiza melodia*), downy woodpecker (*Picoides pubescens*), sanderling (*Calidris alba*), tree swallow (*Tachycineta bicolor*), Anna's hummingbird (*Calypte anna*), yellow-rumped warbler (*Dendroica coronata*), flycatcher species (*Empidonax spp.),* northern flicker (*Colaptes auratus*), house wren (*Troglodytes aedon*), cliff swallow (*Petrochelidon pyrrhonota*), Vaux's swift (*Chaetura vauxi)*, Copper's hawk (*Accipiter cooperii*), and mallard (*Anas platyrhynchos*).

Birds observed in coast live oaks on the perimeter of the agriculture fields and within ruderal habitats included turkey vulture (*Cathartes aura*), common raven (*Corvus corax*), Eurasian collard dove (*Streptopelia decaocto*), bullock's oriole (*Icterus bullockii*), western kingbird (*Tyrannus verticalis*), red-tailed hawk (*Buteo jamaicensis*), white-breasted nuthatch (*Sitta carolinensis*), bushtit (*Psaltriparus minimus*), oak titmouse (*Baeolophus inornatus*), mourning dove (*Zenaida macroura*), acorn woodpecker (*Melanerpes formicivorus)*, house finch (*Carpodacus mexicanus*) and house sparrow.

Mammals. Mammals observed directly and/or detected through the presence of scat and tracks included, mule deer (*Odocoileus hemionus*), desert cottontail (*Sylvilagus audubonii*), western gray squirrel (*Sciurus griseus*) and California ground squirrel (*Spermophilus beecheyi*). Other common mammal species expected to occur within the BSA, based on the presence of suitable habitat, include opossum (*Didelphis virginiana*), deer mouse (*Peromyscus maniculatus*), broad-footed mole (*Scapanus latimanus*), Botta's pocket gopher (*Thomomys bottae*), California vole (*Microtus californicus*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), bobcat (*Lynx rufus*), mountain lion (*Felis concolor*), and common gray fox (*Urocyon cinereoargenteus*).

Fish. No fish were observed within the Salinas River during the April 16, 2008 field survey. The Salinas River is designated as critical habitat for south/central California coast steelhead (*Oncorhynchus mykiss*) in San Luis Obispo County (NMFS 2005). Steelhead may migrate through the Salinas River, but the habitat in the Salinas River near the project area does not present the characteristics for suitable spawning nor rearing habitat. Therefore, if steelhead occur in the Salinas River adjacent to the project area, they would be expected to occur sporadically during their migration period and when surface flow water is present. Other fish species expected to occur within the Salinas River include prickly sculpin (*Cottus asper*),

mosquitofish (*Gambusia affinis*) Sacramento pikeminnow (*Ptychocheilus grandis*) and speckled dace (*Rhinichthys osculus*).

4.2.1 Migratory Corridor

Wildlife migration corridors are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Migration corridors may be local, such as those between foraging and nesting/denning areas, or they may be regional in nature. Migration corridors are not unidirectional access routes; however, reference is usually made to source and receiver areas in discussions of wildlife movement networks. "Habitat linkages" are migration corridors that contain contiguous strips of native vegetation between source and receiver areas. Habitat linkages provide cover and forage sufficient for temporary inhabitation by a variety of ground-dwelling animal species. Wildlife migration corridors are essential to the regional fitness of an area as they provide avenues of genetic exchange and allow animals to access alternative territories as fluctuating dispersal pressures dictate.

The proposed building envelope does not provide wildlife migratory habitat due to the level of disturbance from the existing facility and ongoing site maintenance; however, surrounding habitat (i.e. oak woodland and riparian habitat associated with the Salinas River corridor) provide important wildlife migration corridors along the northern and southern boundaries of the BSA. Therefore, the value of the BSA as a wildlife movement corridor is considered moderate.

5.0 REGIONAL SPECIES AND HABITATS OF CONCERN

5.1 Sensitive Habitats of Concern

Valley Oak Woodland habitat is a sensitive plant community known to occur within the region (CNDDB, 2008). Valley Oak Woodland habitat was not identified within the BSA, however individual valley oaks were identified within the mixed riparian habitat along the banks of the adjacent streams. Only areas where valley oak trees are dense enough to comprise a substantial component of tree cover are considered sensitive, not individual trees. In addition, the riparian forest community along adjacent stream banks is considered a sensitive resource and perennial streams containing these habitats are under the jurisdiction of the CDFG (Fish and Game Code 1600 et seq.).

5.2 Regional Plant Species of Concern

Plant species of concern are either listed as endangered or threatened under the Federal or California Endangered Species Acts, considered rare under the California Native Plant Protection Act, or considered rare (but not legally listed) by resources agencies, professional organizations, and the scientific community. For the purposes of this Report, plant species of concern are defined in Table 1.

The literature search conducted for this study indicated that 24 special-status plant species and one sensitive plant community have been recorded within the following nine (9) USGS quadrangles: Paso Robles, Adelaida, Bradley, San Miguel, Ranchito Canyon, Estrella, Creston, Templeton, and York Mountain. Table 2 lists these species, their current status,

habitat description, blooming period, the presence or absence of suitable habitat within the BSA, and rationale as to why the presence/absence determination was made.

Because the plant species list presented in Table 2 is regional, an analysis of the range and habitat preferences of those species was conducted to identify special-status species that have the potential to occur within the BSA.

Table 1. Definitions of Special-Status Plant Species

Special-Status Plant Species
➢ Plants listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species). ➢ Plants that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register Vol. 71, No. 176, pp. 53756-53835, September 12, 2006). ➢ Plants that meet the definitions of rare or endangered species under the CEQA (*State CEQA Guidelines,* Section 15380). ➢ Plants considered by the CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2 in California Native Plant Society, 2001). ➢ Plants listed by CNPS as plants about which we need more information and plants of limited distribution (Lists 3 and 4 in California Native Plant Society, 2001). ➢ Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 CCR 670.5). ➢ Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.). ➢ Plants considered sensitive by other Federal agencies (i.e., U.S. Forest Service, Bureau of Land Management), state and local agencies or jurisdictions. ➢ Plants considered sensitive or unique by the scientific community or occurring at the limits of its natural range.

Table 2. Special-Status Plants and Vegetation Communities

Scientific Name **Common Name** *(Arranged alphabetically by scientific name)*	**Status**	**Habitat Description** (including known elevation range)	**Blooming Period**	**Habitat Present/ Absent**	**Rationale**
Antirrhinum ovatum Olive-leaved snapdragon	List 4.2	Chaparral, Valley Grassland, Foothill Woodland, Pinyon-Juniper Woodland (200 - 1000 meters)	May to November	A	Habitat associations are not present in Project Site. Nearest known location: Estrella (CNDDB, 2008)
Aristocapsa insignis Indian valley spineflower	List 1B.2	Cismontane and foothill woodlands, sandy soils (300 – 600m)	May to September	P	Sandy soils are present along the Salinas River, adjacent to Project Site. Nearest known location: San Miguel (CNDDB, 2008)
California macrophylla Round-leaved filaree	List 1B.1	Cismontane woodland, valley and foothill grassland (15-1200m)	March to May	A	Habitat associations are not present in Project Site. Nearest known location: Creston road, east of Atascadero (CNDDB, 2008)
Calycadenia villosa Dwarf calycadenia	List 1B.1	Chaparral, cismontane woodland, valley and foothill grassland, meadows and seeps (215 – 1275m)	May to October	A	Habitat associations are absent from Project Site. Nearest known location: east of generals road, camp Roberts (CNDDB, 2008)

Scientific Name **Common Name** *(Arranged alphabetically by scientific name)*	**Status**	**Habitat Description** (including known elevation range)	**Blooming Period**	**Habitat Present/ Absent**	**Rationale**
Cammissonia hardhamiae Hardham's evening-primrose	List 1B.2	Chaparral, cismontane woodland (330 – 500m)	April to May	A	Chaparral and cismontane woodland are not present within Project Site. Nearest known location: 0.45 mile WNW of highway 101 and the Salinas River crossing (CNDDB, 2008)
Castilleja densiflora ssp. *obispoensis* San Luis Obispo owl's-clover	List 1B.2	Meadows and seeps, Valley and foothill grassland, sometimes serpentine (10-400m)	March to May	A	Valley and foothill grassland not present at Project Site. Nearest known location: southwest corner of Airport road and dry creek road, Paso Robles (CNDDB, 2008)
Caulanthus coulteri var. *lemmonii* Lemmon's jewelflower	List 1B.2	Pinyon-juniper woodland, valley and foothill grassland (80-1220m)	March to May	A	Habitat associations are absent from Project Site. Nearest known location: 6 miles north of Paso Robles, on west side of highway 101 (CNDDB, 2008)
Chlorogalum pururеum var. *purpureum* Purple amole	FT, List 1B.1	Cismontane woodland, valley and foothill grassland (300 – 330m)	April to June	A	Habitat associations are absent from Project Site. Nearest known location: Camp Roberts (CNDDB, 2008)
Chorizanthe rectispina straight-awned spineflower	List 1B.3	Chaparral, cismontane woodland, coastal scrub (355 – 1035m)	April to June	A	Habitat associations are not present in Project Site. Nearest known location: Camp Roberts (CNDDB, 2008)
Delphinium umbraculorum Umbrella Larkspur	List 1B.3	Cismontane woodland (400 – 1600m)	April to June	A	Habitat associations not present in Project Site. Nearest known location: Headwaters of Las Tablas Creek (CNDDB, 2008)
Entosthodon kochii Koch's card-moss	List 1B.3	Cismontane woodland (500 – 1000m)	N/A	A	Cismontane woodland is not present in Project Site. Nearest known location: Camp Roberts (CNDDB, 2008)
Eriastrum luteum Yellow-flowered eriastrum	List 1B.2	Broadleafed upland forest, cismontane woodland, chaparral (360 – 1000m)	May to June	A	Habitat associations are not present in Project Site. Nearest known location: Atascadero (CNDDB, 2008)
Horkelia cuneata ssp. *puberula* Mesa horkelia	List 1B.1	Chaparral, cismontane woodland, coastal scrub (70 – 810m)	February to July (Sept)	A	Habitat associations not present in Project Site. Nearest known location: Near Templeton (CNDDB, 2008)
Horkelia cuneata ssp. *sericea* Kellog's horkelia	List 1B.1	Closed-cone coniferous forest, coastal scrub, chaparral (10-200m)	April to Sept	A	Habitat associations not present in Project Site. Nearest known location: Paso Robles and San Miguel (CNDDB, 2008)

Scientific Name **Common Name** *(Arranged alphabetically by scientific name)*	**Status**	**Habitat Description** (including known elevation range)	**Blooming Period**	**Habitat Present/ Absent**	**Rationale**
Layia heterotricha Pale-yellow layia	List 1B.1	Cismontane woodland, pinyon-juniper woodland, valley and foothill grassland (270 – 1365 (2675)m)	March to June	A	Habitat associations are not present within the Project Site. Nearest known location: Camp Roberts (CNDDB, 2008)
Lepidium jaredii ssp. *jaredii* Jared's pepper-grass	List 1B.2	Valley and foothill grassland	March to May	A	Valley and foothill grasslands are not present in Project Site. Nearest known location: Estrella (CNDDB, 2008)
Malacothamnus davidsonii Davidson's bush mallow	List 1B.2	Coastal scrub, riparian woodland, chaparral (180 – 855m)	June to January	P	Riparian woodland is present within Project Site. Nearest known location: San Antonio River, Camp Roberts (CNDDB, 2008)
Malacothrix saxatillis var. *arachnoidea* Carmel Valley malacothrix	List 1B.2	Chaparral (25 – 1215m)	(March) June to December	A	Chaparral habitat is not present within Project Site. Nearest known location: Twin Bridges, Camp Roberts (CNDDB, 2008)
Navarretia nigeliformis ssp. *radians* Shining navarretia	List 1B.2	Cismontane woodland, vernal pools, valley and foothill grassland (200 – 1000m)	May to July	A	Habitat associations are not present at Project Site. Nearest known location: One mile north of Creston and Paso Robles (CNDDB, 2008)
Navarretia prostata prostrate navarretia	List 1B.1	Coastal scrub, valley and foothill grassland, vernal pools (15 – 700m)	April to July	A	Habitat associations are not present in Project site. Nearest known location: Camp Roberts (CNDDB, 2008)
Plagiobothrys uncinatus Hooked popcorn- flower	List 1B.2	Chaparral, cismontane woodland, valley and foothill grassland, coastal bluff scrub (300 – 820m)	April to May	A	Habitat associations are not present in Project Site. Nearest known location: Camp Roberts (CNDDB, 2008)
Stebbinsoseris decipiens Santa Cruz micoseris	List 1B.2	Broadleaf upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub (10 – 500m)	April to May	A	Habitat associations are not present in Project Site. Nearest known location: East Garrison, Camp Roberts (CNDDB, 2008)
Symphyotrichum defoliatum San Bernardino aster	List 1B.2	Meadows and seeps, marshes and swamps, coastal scrub, cismontane woodland, lower montane coniferous forest, grassland (2 – 2040m)	July to November	P	Occurs near ditches, streams, springs and disturbed areas which are present in Project Site. Nearest known location: Just north of Creston (CNDDB, 2008)
Triteleia ixioides ssp. *cookii* Cook's triteleia	List 1B.3	Cismontane woodland, closed-cone coniferous forest, associated with serpentine soils (? – 500m)	May to June	A	Habitat associations are not present in Project Site. Nearest known location: Headwaters of Las Tablas Creek (CNDDB, 2008)

Scientific Name **Common Name** *(Arranged alphabetically by scientific name)*	**Status**	**Habitat Description** (including known elevation range)	**Blooming Period**	**Habitat Present/ Absent**	**Rationale**
Valley Oak Woodland	G3, S2	Valley Oak Woodland, as a habitat, includes areas where Valley oak trees are dense enough to comprise a substantial component of tree cover. Individual species not sensitive.	-	A	Oak woodland habitat not present in Project Site. Nearest known location: Chimney Rock Ranch, south of Camp Roberts (CNDDB, 2008)

Status Codes:

FE	Federal Endangered
FT	Federal Threatened
SE	State Endangered
ST	State Threatened
SR	State Rare (CDFG)
CNPS	
List 1B	Plants rare, threatened, or endangered in California and elsewhere
List 1B.1	Seriously endangered in California
List 1B.2	Fairly endangered in California
List 1B.3	Not very endangered in California

A	Habitat absent
P	Habitat present

CNDDB Element Ranks

G3	Global Rank, 21-80 element occurrences (EOs) OR 3,000-10,000 individuals OR 10,000-50,000 acres
S2	State Rank, 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres

Based on the existing habitat, known elevation range, known occurrence locations, and soils within the BSA, Padre has determined that the following three plant species have the potential, however low, to occur within the Project Site:

- *Aristocapsa insignis* (Indian valley spineflower)
- *Malacothamnus davidsonii* (Davidson's bush mallow)
- *Symphyotrichum defoliatum* (San Bernardino aster)

None of the special-status species listed above were observed within the BSA during the field survey conducted on April 16, 2008.

Indian valley spineflower (*Aristocapa insignis*). Indian valley spineflower, a CNPS List 1B.2 species, is an annual, spreading herb in the buckwheat family (Polygonaceae). It is typically found in sandy soils and cismontane and foothill woodlands and is known to occur in the inner south coast ranges of Monterey and San Luis Obispo Counties. This species generally blooms from May through September. The nearest known location of this species is in San Miguel (CNDDB 2008), approximately 11 miles from the Project Site. The presence of sandy soils increase the likelihood for Indian valley spineflower to occur along the Salinas River, however due to the lack of cismontane and foothill woodlands within the Project Site, the potential for Indian valley spineflower to occur on-site is considered unlikely. No Indian valley spineflower were identified during the field survey on April 16, 2008.

Davidson's bush mallow (*Malacothamnus davidsonii*). Davidson's bush mallow, a CNPS List 1B.2 species, is a deciduous shrub in the Mallow family (Malvaceae). It is typically found in riparian woodland, as well as coastal scrub and chaparral. Its range has been decreased to restricted occurrences in Los Angeles, San Mateo, Santa Clara and San Luis Obispo Counties. This species generally blooms from June through January. The nearest

known location of this species is in Camp Roberts adjacent to the San Antonio River (CNDDB, 2008), approximately 17 miles northwest of the Project Site. Davison's bush mallow may occur in habitat adjacent to the Project Site; however during field surveys the species was not identified.

San Bernardino aster (*Symphyotrichum defoliatum*). San Bernardino aster, a CNPS List 1B.2 species, is a rhizomatous herb in the sunflower family (Asteraceae). It is typically found in cismontane woodlands, coastal scrub, coniferous forests, meadows, seeps, marshes, and valley and foothill grassland habitats. It also occurs near ditches, streams and springs that occur in adjacent areas to the Project Site. This species generally bloom from July to November. The nearest known location of this species occurs north of Creston, approximately 10 miles southeast from the Project Site. No San Bernardino aster were identified during field surveys conducted on April 16, 2008.

5.3 Regional Wildlife Species of Concern

Wildlife species of concern are defined in Table 3. The potential for these species to occur in the vicinity of the BSA was determined by a query of the CNDDB, and review of reported occurrences from other environmental documents, and communication with species experts. Table 4 lists wildlife species of concern that have been documented within the region of the BSA. Because the wildlife species list presented in Table 4 is regional, an analysis of the range and habitat preferences of those species was conducted to identify special-status wildlife species that have the potential to occur within the BSA.

Table 3. Definitions of Special-Status Wildlife Species

Special-Status Animal Species
➢ Animals listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in the Federal Register for proposed species). ➢ Animals that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register Vol. 71, No. 176, pp. 53756-53835, September 12, 2006). ➢ Animals that meet the definitions of rare or endangered species under the CEQA (*State CEQA Guidelines*, Section 15380). ➢ Animals listed or proposed for listing by the State of California as threatened and endangered under the California Endangered Species Act (14 CCR 670.5). ➢ Animal species of special concern to the CDFG (Remsen, 1978 for birds; Williams, 1986 for mammals). ➢ Animal species that are fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

Table 4. Special-Status Wildlife Species of the Project Area

Common Name *Scientific Name*	Status	General Habitat Description	Habitat Present (P)/ Absent (A)	Rationale
Invertebrates				
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	Endemic to the grasslands of the central valley, central coastal mnts, and south coast mnts, in astatic rain-filled pools.	A	Vernal pools are not present at the Project Site. Nearest known location: Highway 46, 2 miles east of Paso Robles (CNDDB, 2008)

Common Name ***Scientific Name***	**Status**	**General Habitat Description**	**Habitat Present (P)/ Absent (A)**	**Rationale**
Atascadero June beetle *Polyphylla nubila*	G1, S1	Sand dunes in San Luis Obispo County, agriculture fields, grasslands	P	Agriculture and sandy areas are present within Project Site. Nearest known location: Paso Robles (CNDDB, 2008)
Lompoc grasshopper *Trimerotropis occulens*	GH, SH	Known only in San Luis Obispo and Santa Barbara counties.	A	Habitat highly disturbed, Project Site not suitable for species. Nearest known location: Paso Robles in 1901 (CNDDB, 2008)
Fish				
South-central California coast steelhead ESU *Oncorhynchus mykiss irdeus*	FT	Coastal basins from the Pajaro River south to the Santa Maria River	P	Salinas River is adjacent to the Project Site. Nearest known location: Little Pico Creek, 7.2 miles north of Cambria and 1.5 mile south of San Simeon, on Highway 1 (CNDDB, 2008)
Reptiles				
Southwestern pond turtle *Emys (=Clemmys) marmorata pallida*	CSC	Permanent or nearly permanent bodies of water in many habitat types (<6000 ft elevation)	P	Salinas River and riparian habitat immediately adjacent to Project Site. Nearest known location: Paso Robles quadrangle (CNDDB, 2008)
Coast (California) horned lizard *Phrynosoma coronatum* (Frontale population)	CSC	Wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	P	Sandy washes within the Salinas River immediately adjacent to Project Site. Nearest known location: 2 miles north of Nacimiento in Camp Roberts (CNDDB, 2008)
Amphibians				
California red-legged frog *Rana aurora draytonii*	FT,CSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation	P	Riparian vegetation present immediately adjacent to Project Site. Nearest known location: Graves Creek, 1 mile south of Templeton (CNDDB, 2008)
Coast range newt *Taricha torosa torosa*	CSC	Coastal drainages from Mendocino county to San Diego county	A	Habitat associations not present within Project Site. Nearest known location: Santa Rosa Creek Road, 7 miles north of Cayucos (CNDDB, 2008)
Western spadefoot *Spea hammondii*	CSC	Grassland habitats, valley-foothill hardwood woodlands, vernal pools are essential for egg laying and breeding	A	Vernal Pools are not present in Project Site. Nearest known location: O'Donovan Road, 0.3 miles south of Creston (CNDDB, 2008)
Birds				
Bald Eagle *Haliaeetus leucocephalus*	SE	Ocean shore, lake margins and rivers for nesting and wintering	A	Habitat for nesting and wintering absent from Project Site. Nearest known location: Camp Roberts and Nacimiento Lake (CNDDB, 2008)

Common Name ***Scientific Name***	**Status**	**General Habitat Description**	**Habitat Present (P)/ Absent (A)**	**Rationale**
Burrowing owl (burrow sites) *Athene cunicularia*	CSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.	A	Habitat associations not present within Project Site. Nearest known location: Camp Roberts (CNDDB 2008)
California horned lark *Eremophila alpestris actia*	CSC	Coastal regions, also main part of San Joaquin valley and east to foothills, open areas, grasslands, rangeland, roadsides.	P	Potential habitat associations are present within Project Site. Nearest known location: Camp Roberts (CNDDB, 2008)
Common Name ***Scientific Name***	**Status**	**General Habitat Description**	**Habitat Present (P)/ Absent (A)**	**Rationale**
Golden eagle *Aquila chrysaetos*	CSC	Rolling foothills, mountain areas, sage-juniper flats and desert	A	Habitat associations not present within Project Site Nearest known location: West side of Huerhuero Creek, Paso Robles (CNDDB, 2007)
Great blue heron *Ardea herodias*	G5	Nests in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to river, streams and lake margins.	P	Riparian habitat exists immediately adjacent to Project Site; however no known rookeries are located within area. Nearest known location: Salinas River; Camp Roberts. (CNDDB 2008)
Least Bell's vireo *Vireo belii pusillus*	FE, SE	Low riparian in vicinity of water or in dry river bottoms, below 2000 ft.	P	Riparian habitat present immediately adjacent to Project Site. Nearest known location: Salinas River, at the Bradley bridge (CNDDB, 2008)
Cooper's hawk *Accipiter cooperii*	CSC	Riparian forests.	P	Observed foraging along 10^{tth} Street by Padre during July 13, 2007 survey. Potential nesting habitat occurs within riparian woodland of Salinas River
Southwestern willow flycatcher *Empidonax traillii extimus*	FE, SE	Riparian woodlands	P	Riparian vegetation is adjacent to the Project Site. Nearest known location: Santa Ynez River, 2 miles west of Buellton (CNDDB, 2008)
Prairie falcon *Falco mexicanus*	CSC	Dry open terrain; level or hilly.	A	Habitat associations not present within Project Site. Nearest known location: Bradley quadrangle (CNDDB, 2008)
Tricolored blackbird *Agelaius tricolor*	CSC	Marshes, areas near water, lakes.	A	No habitat requirements present within Project Site. Nearest known location: Camp Roberts (CNDDB 2008)

Common Name *Scientific Name*	Status	General Habitat Description	Habitat Present (P)/ Absent (A)	Rationale
Yellow Warbler *Dendroica petechia brewsteri*	CSC	Riparian plant association, prefers willows, cottonwoods, aspens, sycamores and alders for nesting and foraging.	P	Riparian vegetation exists immediately adjacent to Project Site. Nearest known location: Salinas River at Bradley bridge (CNDDB, 2008)
Mammals				
American Badger *Taxidea taxus*	CSC	Shrub, forest, and herbaceous habitats, with friable soils.	A	Project Site is highly disturbed, lack of sufficient prey base. Nearest known location: Highway 101, 1.5 miles N of Templeton (CNDDB, 2008)
Hoary bat *Lasiurus cinereus*	S4, G5	Open habitats or open mosaics, with access to trees for cover and open areas or habitat edges for feeding.	P	Salinas River immediately adjacent to Project Site. Nearest known location: Nacimiento Ranch (CNDDB, 2008)
Common Name ***Scientific Name***	**Status**	**General Habitat Description**	**Habitat Present (P)/ Absent (A)**	**Rationale**
Monterey dusky-footed woodrat *Neotoma macrotis luciana*	CSC	Forest habitats of moderate canopy and moderate to dense understory, also chaparral habitats.	A	Forest and chaparral habitats not present in Project Site. Nearest known locations: Camp Roberts (CNDDB, 2008)
Pallid bat *Antrozous pallidus*	CSC	Deserts, grasslands, shrublands, woodlands, and forests, open dry habitats with rocky outcrops for roosting.	A	Habitat associations not present within Project Site. Nearest known location: River Road bridge, Salinas River, east of San Miguel (CNDDB, 2008)
Salinas pocket mouse *Perognathus inornatus psammophilus*	CSC	Annual grassland and desert shrub communities in the Salinas Valley.	A	Habitat associations not present within Project Site. Nearest known location: Camp Roberts (CNDDB, 2008)
San Joaquin Kit Fox *Vulpes macrotis mutica*	FE, ST	Annual grasslands or grassy open stages with scattered shrubby vegetation.	P	Salinas River (migratory corridor) immediately adjacent to Project Site. Nearest known location: (0.9 miles SE of intersection of Union Rd. and Golden Hill Rd, Paso Robles (CNDDB, 2008)
San Joaquin pocket mouse *Perognathus inornatus inornatus*	S2, S3	Grasslands and blue oak savannas. Needs friable soils.	A	Habitat associations not present at Project Site. Nearest known location: 2 miles south of San Miguel (CNDDB, 2008)

Status Codes:

FE Federal Endangered (USFWS)
FT Federal Threatened (USFWS)
FPT Federal Proposed Threatened
SE State Endangered (CDFG)
ST State Threatened (CDFG)
CSC California Species of Special Concern (CDFG)
FP Fully protected under Section 4700 of the California Fish and Game Code
SA Special Animal (CDFG)

CNDDB Element Ranks

G1 Global Rank, Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres

G5	Global Rank, Population or stand demonstrably secure to ineradicable due to being commonly found in the world
GH	All sites are historical. The element has not been seen in 20 years, but suitable habitat still exists
S1	State Rank, Less than 6 EOs OR less than 1,000 individuals OR less than 2,000 acres
S2	State Rank, 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres
S3	State Rank, 21-80 EOs or 3,000-10,000 individuals OR 10,000-50,000
S4	Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat.
SH	All California sites are historical
A	Habitat Absent
P	General Habitat Present

As a result of the literature review and a field survey conducted on April 16, 2008, the Project Area and its immediate vicinity may provide suitable habitat to support several state and federal-listed wildlife species. The following discussion provides an overview of the general habitat requirements for these species and further detail on the potential for each of these species to occur in the project area:

Invertebrates

Atascadero June Beetle (Polyphylla nubile). The Atascadero June beetle is of the Family Scarabaeidae "Scarab Family", Order Coleoptera, and Genus Polyphylla, meaning "lined June beetles." Similar to all beetles in the Scarab Family, this species occurs in agriculture fields, grasslands and sandy areas (Hoffman, 2006). It is known to occur within San Luis Obispo County, as well as within the City of Paso Robles (CNDDB, 2008). The majority of their lifecycle occurs in a larval stage under the soil surface. They pupate into beetles to mate and lay eggs from the early summer months through June, once every 2 to 3 years (Sutherland, 2006). The CNDDB ranks the Atascadero June beetle as a G1 and S1. There is potential that Atascadero June beetle could occur in suitable habitat in the project area. No June beetles were identified during field survey on April 16, 2008.

Fish

South-Central California Coast Steelhead (*Oncorhynchus mykiss irdeus*). The south-central California coast steelhead is federally-listed as threatened under the ESA. Steelhead trout are rainbow trout with an anadromous life history. Steelhead make spawning runs into rivers and small creeks flowing into the ocean. The south-central California coast steelhead encompasses all naturally-spawned steelhead populations below natural and manmade impassable barriers in streams from the Pajaro River (inclusive) to, but not including, the Santa Maria River (NMFS 2006). Therefore, the project area is located within the distribution of the south-central California coast steelhead.

In general, adult steelhead return to rivers and creeks in the region from October to April. Spawning takes place in the rivers from December to April with most spawning activity occurring between January and March. Steelhead remain in freshwater for one to four years before they out-migrate into the open ocean during spring and early summer (Goals Project 2000). Juvenile steelhead can spend up to seven years in freshwater before moving downstream as smolts from March to May (Busby et al. 1996). Steelhead can spend up to three years in saltwater before returning to freshwater to spawn (Barnhardt 1986). Because juvenile steelhead remain in the creeks year-round, adequate flows, suitable water temperatures, and an abundant food supply

are necessary throughout the year in order to sustain steelhead populations. The most critical period is in the summer and early fall when these conditions become limiting.

There are no CNDDB records of steelhead in the project area and surrounding nine USGS quadrangles. However, the Salinas River is included as designated critical habitat for steelhead in San Luis Obispo County (NMFS 2005). Steelhead may migrate through the Salinas River, but the habitat in the Salinas River near the project area does not present the characteristics for suitable spawning nor rearing habitat. Therefore, if steelhead occur in the Salinas River within the project area, they would be expected to occur sporadically during their migration period.

Reptiles

Southwestern Pond Turtle (*Emys (=Clemmys) marmorata pallida*). The southwestern pond turtle is a California special concern species. It is an aquatic turtle inhabiting streams, marshes, ponds, and irrigation ditches within woodland, grassland, and open forest communities. This species requires upland sites for nesting and over-wintering. Stream habitat must contain large, deep pool areas with moderate-to-good plant and debris cover, and rock and cobble substrates for escape retreats. Southwestern pond turtle have been documented in Salinas River Tributaries in the Paso Robles quadrangle in 2006 (CNDDB, 2008), is expected to occur within the Salinas River corridor. No southwestern pond turtles were identified during the field survey on April 16, 2008.

Coast Horned Lizard (*Phrynosoma coronatum*). The Coast Horned lizard is currently a California Special Concern species. It inhabits open areas of sandy soil and low vegetation in valleys and foothills throughout northern California to Baja California. It is found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Often found in sandy washes and along dirt roads. CNDDB has documentation of a sighting in April of 2007, 2 miles north of Lake Nacimiento, approximately 17.9 miles northeast of the Project Site. There is potential that coast horned lizard could occur in suitable habitat in the project area. No coast horned lizards were identified during field survey on April 16, 2008.

Amphibians

California Red-Legged Frog (*Rana aurora draytonii*). The California red-legged frog (CRLF) is listed as threatened under the ESA and is a California species of special concern. The historical range of the CRLF extended on the coast from the vicinity of Point Reyes National Seashore and inland from the vicinity of Redding southward to northwestern Baja California, Mexico (USFWS 2007). The largest extent of currently occupied habitat is found in Monterey, San Luis Obispo, and Santa Barbara Counties (USFWS 2007). CRLF is generally found along marshes, streams, ponds, and other permanent sources of water where dense scrubby vegetation such as willows, cattails, and bulrushes dominate, and water quality is good. Breeding sites occur along watercourses with pools that remain long enough for breeding and the development of larvae. Breeding time depends on winter rains but is usually between late November and late April (Jennings 1988).

There are two CNDDB records of CRLF in tributaries to the Salinas River, at Graves Creek and Paso Robles Creek, which are both over 6 miles from the Project Site. The project area is located within CRLF historical range and habitat suitable to support CRLF is found in the

project area, consisting of areas of slow-moving water and associated side channels in the Salinas River. The project area is not located within the designated critical habitat for CRLF (USFWS 2006a). Since CRLF are known to migrate up to one-mile from breeding sites, all upland areas with intact undisturbed vegetation within one mile of the Salinas River would be considered suitable upland habitat for the CRLF. Due to previous Project Site disturbances and the minimal amount of CRLF habitat within the project area, the likelihood of occurrence within the Project Site is considered low. No CRLF were identified within project area during the field survey on April 16, 2008

Birds

Least Bell's Vireo (*Vireo belii pusillus*). The least Bell's vireo is listed as endangered under the federal and state ESA. The least Bell's vireo's historical range extends from Red Bluff in the north; to northwestern Baja California in the south; and to Owens Valley, Death Valley, and the Mojave River in the east. This species current range is a very small fraction of its former range. The least Bell's vireo is a migratory songbird that nests and forages almost exclusively in riparian woodlands. It is only found in California during the breeding season from mid-March to late September. It winters in southern Baja California, Mexico. In 1986, when the least Bell's vireo was federally listed, it had been extirpated from most of its historical range and there were only 300 pairs statewide (USFWS 2007). These breeding pairs were confined to eight counties south of Santa Barbara, with most of them occurring in San Diego County (USFWS 2007).

The project area is located adjacent to the Salinas River which supports riparian habitat and may provide habitat suitable to support the least Bell's vireo. However, the project area is not located within the designated critical habitat for the least Bell's vireo (USFWS 1994b). A recent occurrence of the least Bell's vireo has been recorded at Camp Roberts Military Reservation on the Salinas River, approximately nine miles from the project area (Kofron 2005). Another record of the least Bell's vireo was found in the Salinas River upstream and downstream of Bradley Bridge, approximately 19.0 miles from the project area in 1985 (CDFG 2006). In summary, the project area is located within the historical range of the least Bell's vireo, which has the potential to occur within the Salinas River corridor during it's breeding period.

Southwestern Willow Flycatcher (*Empidonax trialli extimus*). The southwestern willow flycatcher is listed as endangered under the ESA. Historically, this migrant was known to occur in suitable habitat in the Los Angeles Basin; San Bernardino, Riverside, and San Diego Counties; and the lower Colorado River. The southwestern willow flycatcher inhabits riparian habitats along rivers, streams, and other wetland habitats with dense growths of willows. They are only found in California during their breeding season from the middle of May to late August and are known to winter in Mexico, Central America, and northern South America.

The project area is located adjacent to the Salinas River which supports riparian habitat and may provide habitat suitable to support the southwestern willow flycatcher; however, the southwestern willow flycatcher's historical range does not include San Luis Obispo County (USFWS 2007). This species is not included in the USFWS species list for San Luis Obispo County (USFWS 2007). In addition, there are no known CNDDB records of this species for the

entire County of San Luis Obispo (CDFG 2006). For these reasons, it is highly unlikely that the southwestern willow flycatcher would occur in the project area or its vicinity. Further, the project area is not located within the proposed critical habitat for the southwestern willow flycatcher (USFWS 2004).

Cooper's Hawk (*Accipiter cooperii*). This species is considered a California special concern species during its nesting period. Preferred nesting habitat consists of dense stands of coast live oak, riparian or other forest habitat located near water. Cooper's hawk is considered an uncommon transient and winter visitor throughout most of San Luis Obispo County. This species was observed on the Project Site during a reconnaissance-level survey conducted by Padre on April 17, 2008. Further, suitable nesting habitat occurs within adjacent habitat in the Salinas River.

Yellow Warbler (*Dendroica petechia brewsteri*). The yellow warbler is a California Species of Special Concern. There is a moderate level of potential for this species to occur within the riparian habitat of the Salinas River as a migratory stop-over, for nesting, or for foraging. It is a common nesting species in riparian habitats in San Luis Obispo County.

Great Blue Heron (*Ardea herodias*). The CNDDB ranks the great blue heron as a G5, identifying the species' population as globally secure. This species is not listed or proposed for listing, but considered biologically or locally rare by CDFG or associated with a declining habitat. Great blue heron occurs near sources of water, including rivers lake edges, marshes and swamps foraging on fish and amphibians. They are also found in agricultural areas and grasslands foraging for amphibians and rodents. They roost in trees near water. Great blue heron have been identified within the Salinas River (CNDDB), located adjacent to the Project Site. No great blue heron were identified during the field survey on April 16, 2008.

California horned lark (*Eremophila alpestris actia*). California horned lark commonly occur in grasslands and other open habitats with low, sparse vegetation, which occurs within the Project Site. However, this species were not observed during field surveys. Further, the long history of site disturbance within the area has reduced the quality of grassland habitat within and adjacent to the Project Site. Therefore, use of the by these species is expected to be temporary in nature and likelihood of occurrence is considered low. No impacts to California horned lark would result from project implementation.

Birds of Prey. The Cooper's hawk, sharp-shinned hawk, white-tailed kite, prairie falcon, northern harrier, ferruginous hawk, and golden eagle are wide ranging birds-of-prey that could use the Project Site for the purposes of foraging during migration and/or movement through the region. Several of these species often utilize dense riparian corridors for the purposes of nesting (e.g., Cooper's hawk, etc.). Based on field observations, the Project Site provides only limited prey base for large raptors (only minimal evidence of fossorial activity). Further, no remnant raptor nests were identified within the canopies surrounding the Project Site. Therefore, use of the Project Site by these species is expected to be temporary in nature and likelihood of occurrence is considered low. Impacts to special-status birds of prey are expected to be less than significant.

Other Protected Bird Species. A number of bird species potentially occurring on the Project Site are protected during their nesting period under the provisions of the Federal

Migratory Bird Treaty Act of 1918. Several species observed utilizing oak trees near the Project Site could be affected by oak tree removal and/or pruning/limbing, specifically acorn woodpeckers utilizing oak trees for acorn storage for the winter seasons. Other activities during project construction including short-term noise, dust, and human presence could impact nesting birds adjacent to the Project Site and along the transmission pipeline corridor.

Use of trenchless horizontal drilling of the transmission pipeline when crossing the Salinas River would reduce impacts to riparian habitat. Further, pre-activity nesting bird surveys would reduce potential impacts to various bird species by ensuring that active nests are avoided as necessary during project implementation. Also, oak tree avoidance mitigation measures will be implemented according to the City of Paso Robles Oak Tree Ordinance. Therefore, potential impacts to sensitive species and nesting birds would be mitigated to less than significant.

Mammals

San Joaquin Kit Fox. Connectivity to the Salinas River provides suitable habitat for San Joaquin kit fox (SJKF). Specifically, SJKF is most commonly associated with grassland habitats dominated by native perennial and introduced grasses, and have been observed in cultivated lands and pastures such as those occurring within and adjacent to the Project Site. SJKF dens are typically located in flat terrain or gently sloping hills, in washes, drainages and roadside berms. Further, the Project Site is located within a designated SJKF movement corridor and habitat linkage between the Carrizo Plain and Salinas Valley. The CNDDB has a documented sighting in 1991 southeast of Union Road and Golden Hill Road, approximately 4.0 miles from the Project Site. As such, the Project Site may provide suitable habitat for SJKF.

Hoary Bat. The CNDDB ranks the hoary bat as a G5 and S4, identifying the species' population as secure globally and in California with some threat and somewhat narrow habitat. The hoary bat utilizes riparian corridors and woodland edges for foraging, roosting in trees 10-15 feet above ground. They are not typically attracted to houses or other human structures; however the adjacent riparian corridor and open agricultural areas near the Project Site may provide suitable habitat for hoary bat. The nearest known location of hoary bat was documented approximately 13 miles NNW of Project Site. No bats were identified within the BSA during the April 16, 2008 field survey.

6.0 IMPACT DISCUSSION

6.1 Short-term Impacts

Noise, dust and vehicle operation generated by construction and demolition activities may disrupt foraging activities of some wildlife within the boundaries of the Project Site and immediate vicinity. Although highly mobile wildlife species (e.g., birds) would be expected to avoid the Project Site, construction activities may also result in mortality of less mobile species, particularly, fossorial (ground-dwelling) species.

The proposed project will not result in any direct impacts to the Salinas River channel or the associated riparian corridor (see Figure 5 – Limits of Waters of the U.S.). However, short-term construction activities may result in secondary impacts to the Salinas River, the adjacent unnamed tributary south of the Project Site, and the maintained drainage channel within the

northeast portion of the Project Site due to dust, erosion, sedimentation, and risk of upset (i.e., miscellaneous spills from construction vehicle equipment and/or frac-out). Overall, due to the current level of disturbance associated with the existing facilities, the limited number of wildlife species occurring within the BSA, the current absence of special-status plant and wildlife species within the Project Site limits, and the availability of suitable habitat in the region, impacts to general wildlife are expected to be less than significant. However, the proposed project has the potential to result in temporary impacts to nesting birds protected under the Migratory Bird Treaty Act (MBTA). Implementation of the mitigation measures outlined below would mitigate impacts to nesting birds to less than significant levels.

6.2 Long-term Impacts

No special-status wildlife species were identified within the BSA during the April 16, 2008 field survey. Special-status species such as California red-legged frog, least Bell's vireo, southwestern willow flycatcher, San Joaquin kit fox, south central California coast steelhead, hoary bat, southwestern pond turtle, coast horned lizard, Cooper's hawk, yellow warbler, great blue heron, and California horned lark all have the potential to occur within the habitats immediately adjacent to the Project Site. However, the proposed project would not result in any direct impacts to the riparian corridor, stream channels, or potentially viable habitat in which sensitive species could be found; therefore, impacts to these species would be considered less than significant. Furthermore, implementation of the mitigation measures outlined below would reduce potential secondary impacts to these species to less than significant levels.

Based on current project information, potential impacts may occur to oak trees along the transmission pipeline corridor and associated nesting bird species. Specifically, the proposed corridor in which will be disturbed via open trench construction may result in removal, pruning and/or damage to the root system of several oak trees. Disturbance to the oak trees may result in significant impact to wildlife, specifically nesting birds and acorn woodpecker granaries. However, implementation of mitigation measures would reduce potential impacts to the oak trees and wildlife utilizing the oak trees to a less than significant level.

Long-term impacts may occur due to an increase of human activity and noise associated with the WTP facilities. Such activity may disturb migratory birds which may utilize the riparian forest or oak trees within the Project Site for nesting and migratory purposes. However, these long-term impacts are considered to be less than significant due to the high level of disturbance associated with the existing facility, the permanent presence of agricultural practices, and the availability of suitable nesting habitat within the Project Site and surrounding areas.

7.0 RECOMMENDATIONS AND MITIGATION MEASURES

Past and current land use practices have impacted the extent and diversity of the plant communities existing within the Project Site. However, as indicated above, the Project Site contains suitable habitat to support a wide species diversity as may be present in surrounding areas. Therefore, it is recommended that the following measures be implemented during the proposed project to reduce potential impacts to sensitive resources to a less than significant level:

1. If feasible, construction activities shall take place outside of the nesting bird season (i.e., March 15 to August 15). If construction activities occur within nesting bird season, a qualified biologist shall perform pre-activity nesting bird surveys to determine if breeding/nesting birds are present within the Project Site. If an active bird nest is identified, then CDFG and/or USWFS shall be consulted to determine appropriate buffer during construction activities.

2. A qualified biologist shall be retained to conduct a pre-construction survey of the Project Site and the adjacent habitats. In the event that any special-status species are identified within the Project area (i.e., SJKF, CRLF, southwestern pond turtle, two-striped garter snake), all work shall cease and the appropriate agencies shall be contacted for further consultation. As necessary, appropriate regulatory agency permits and/or approvals shall be obtained to allow relocation of special-status species from the Project area. In addition, the following measures shall be implemented to further mitigate impacts to SJKF:

    - SJKF protection measures shall be included on project plans;
    - A maximum 25 mph speed limit shall be required at the Project Site during construction;
    - All construction activities shall cease at dusk;
    - All excavations deeper than two feet shall be covered at the end of each working day or escape ramps for SJKF shall be provided;
    - All pipes, culverts, or similar structures shall be inspected for SJKF before burying, capping, or moving; and,
    - All food-related trash shall be removed from the Project Site at the end of each working day.

3. A worker education program shall be prepared and presented to all construction personnel at the beginning of the project. The program shall discuss sensitive species with potential to occur in the construction zone, with emphasis on: special-status wildlife and plant species. The program shall explain the importance of minimizing disturbance and adhering to other disturbance minimizing measures.

4. The use of heavy equipment and vehicles shall be limited to the proposed project limits, existing roadways, and defined staging areas/access points. The boundaries of each work area shall be clearly defined and marked with visible flagging and/or orange protective fencing.

5. Erosion control measures shall be implemented to prevent runoff to the Salinas River corridor and associated tributaries. Silt fencing, in conjunction with other methods, shall be used to prevent erosion and avoid and/or minimize silts and sediments from entering adjacent waterways.

6. During construction, washing of concrete, paint, or equipment and refueling and maintenance of equipment shall occur only in designated areas a minimum of 50 feet from the Salinas River and the adjacent stream. Straw bales, sandbags, and sorbent

pads shall be available to prevent water and/or spilled fuel from entering stream channels. In addition, all equipment and materials shall be stored/stockpiled away from the swale. Construction equipment shall be inspected by the operator on a daily basis to ensure that equipment is in good working order and no fuel or lubricant leaks are present.

7. Protective fencing shall be installed along the perimeter of the Project Site to protect the surrounding habitat located adjacent to the work area. This would include the riparian corridor of the Salinas River and the maintained drainage feature within the northeast portion of the Project Site.

8. Oak tree protection and replacement procedures shall be implemented during the project. This includes procedures for protecting oak trees to remain in place during construction, and replacing oak trees that are impacted. Oak tree protections must comply with the City of Paso Robles Tree Ordinance No. 835 N.S; therefore, the following measures shall be implemented to mitigate for potential impacts to oak trees:

   - Permits to Remove or Prune will be obtained in the event any oak tree or limb over 6-inches in DBH are to be removed, or otherwise destroyed;
   - Protective fencing shall be installed around oak trees that have the potential to be impacted by proposed construction activities. The fencing shall be installed prior to grubbing/construction and provide the greatest protection of the root zone of oak trees;
   - To further protect oak trees to remain in place, a certified arborist shall be retained to perform any necessary trimming of oak tree limbs overhanging the proposed pipeline corridor and around the perimeter of the WTP. This shall be conducted prior to allowing construction equipment access to avoid and/or minimize the potential for inadvertent damage to oak trees limbs;
   - Newly planted oak trees should be placed around the perimeter of the proposed building envelope, along the proposed water tank access road, and within the proposed water tank site. The location of newly planted oak trees shall adhere to the following whenever possible: on the north side of and at the canopy/dripline edge of existing mature native trees; north-facing slopes; within drainages swales; where topsoil is present; and if clustered, at least 10-feet “on center” separation between each tree. Tree spacing will average approximately 15 feet on-center. Some clustering is acceptable to maintain a more natural appearance; and,
   - Newly planted trees shall be maintained until successfully established. This shall include protection (e.g., caging, tree shelters) from burrowing and browsing animals (e.g., deer, rodents), regular weeding (minimum of once early fall and once early spring) of at least a 3-foot radius around the plant base and adequate watering. Heavy mulching is also recommended. If possible, planting during the warmest, driest months (June through September) shall be avoided.

9. To minimize the effects of future exterior lighting on special-status wildlife species (i.e., southwestern pond turtle, CRLF, etc.), all outdoor lighting fixtures shall be shall be

positioned and/or shielded to avoid direct lighting to adjacent streams and surrounding habitat areas.

10. During HDD operations across the Salinas River, a monitor shall be on-site to inspect the River corridor and pipeline alignment during drilling activities that have the potential for a spill or "Frac-out" (i.e., pull back operations, etc.) to ensure there are no impacts to the Salinas River. In the event of a spill or "Frac-out" within the Salinas River corridor, all work shall be halted and the spill shall be contained using the procedures outlined in the "Frac-out Contingency Plan."

11. A "Frac-out Contingency Plan" shall be prepared for HDD operations within the Salinas River channel and shall include appropriate measures for containment of spills, clean-up protocols, and restoring the river channel to pre-disturbance conditions.

12. In the event that a "Frac-out" occurs within the Salinas River channel due to horizontal directional drilling (HDD) activities, a 404 Permit shall be obtained from the U.S. Army Corps of Engineers to facilitate any required clean-up activities within the river channel.

Implementation of the above-mentioned measures should reduce impacts to special-status species potentially occurring within the proposed Project Site and existing sensitive habitat areas to a less than significant level.

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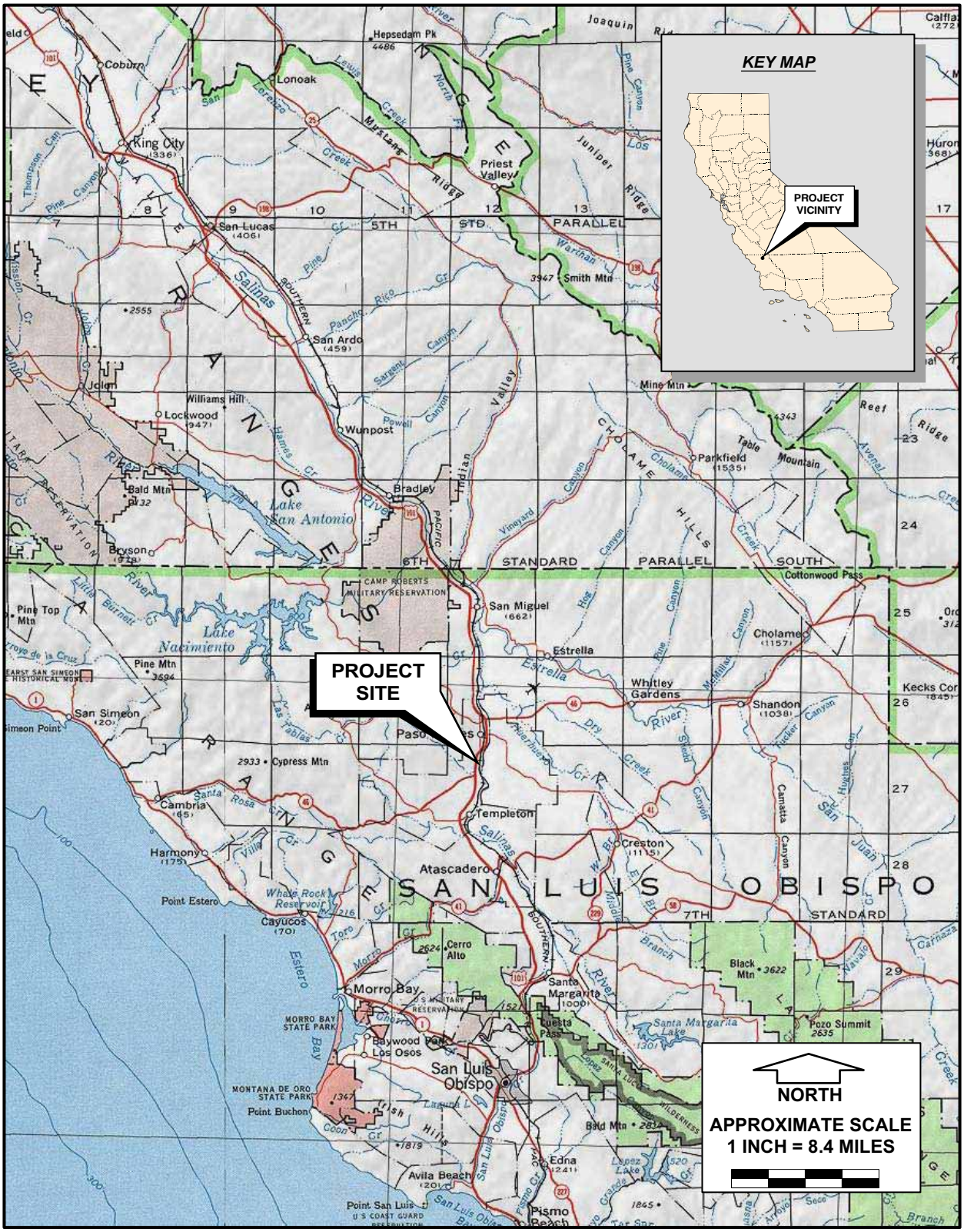
FIGURES

June 2008
Project No.0802-0631



Source: TOPO! c 2004 National Geographic Holdings (www.topo.com)

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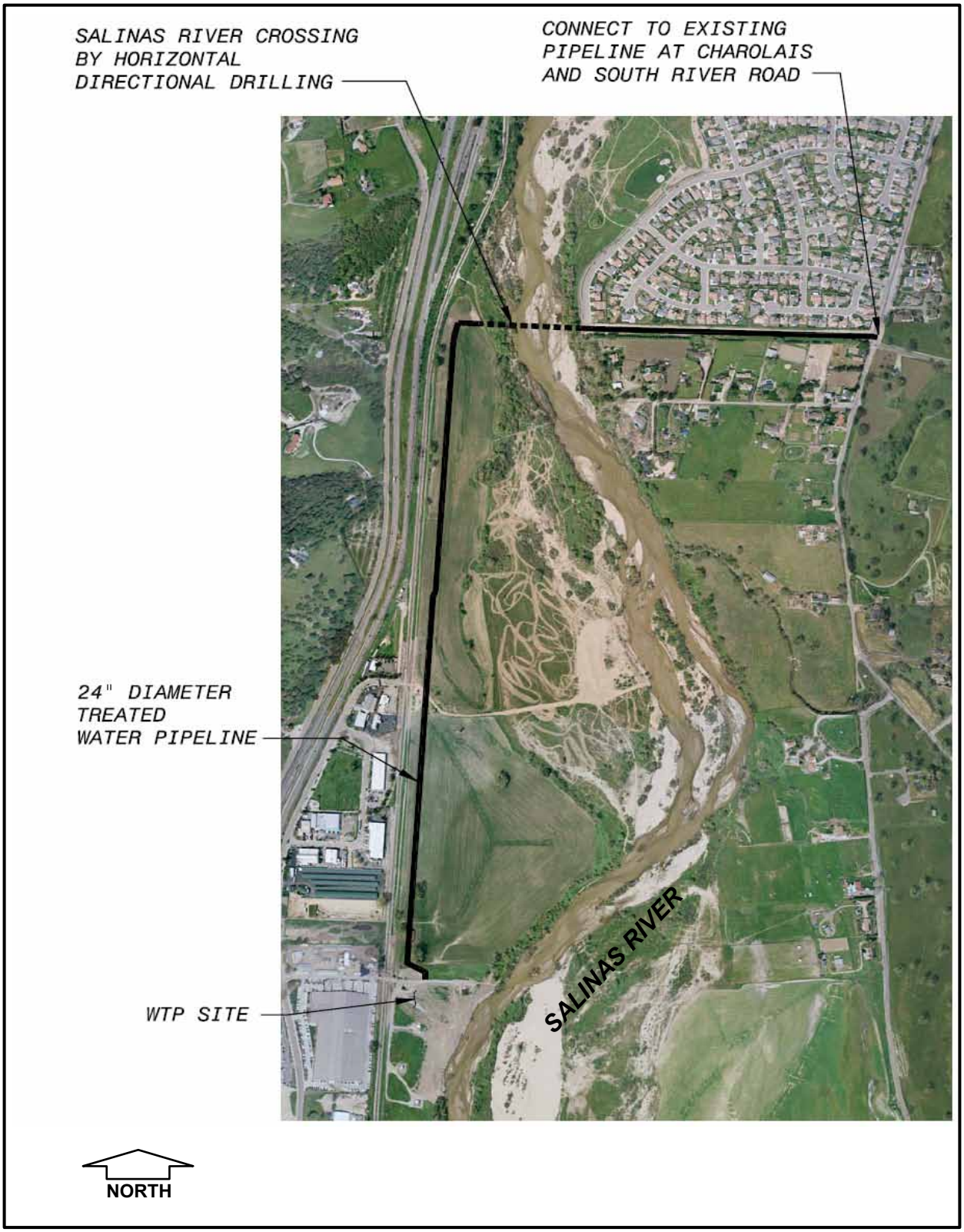
SITE VICINITY MAP

Paso Robles Water Treatment Plant and Main East Pipeline Project IS/MND

FIGURE 1



Source: Black and Veatch, 2007.

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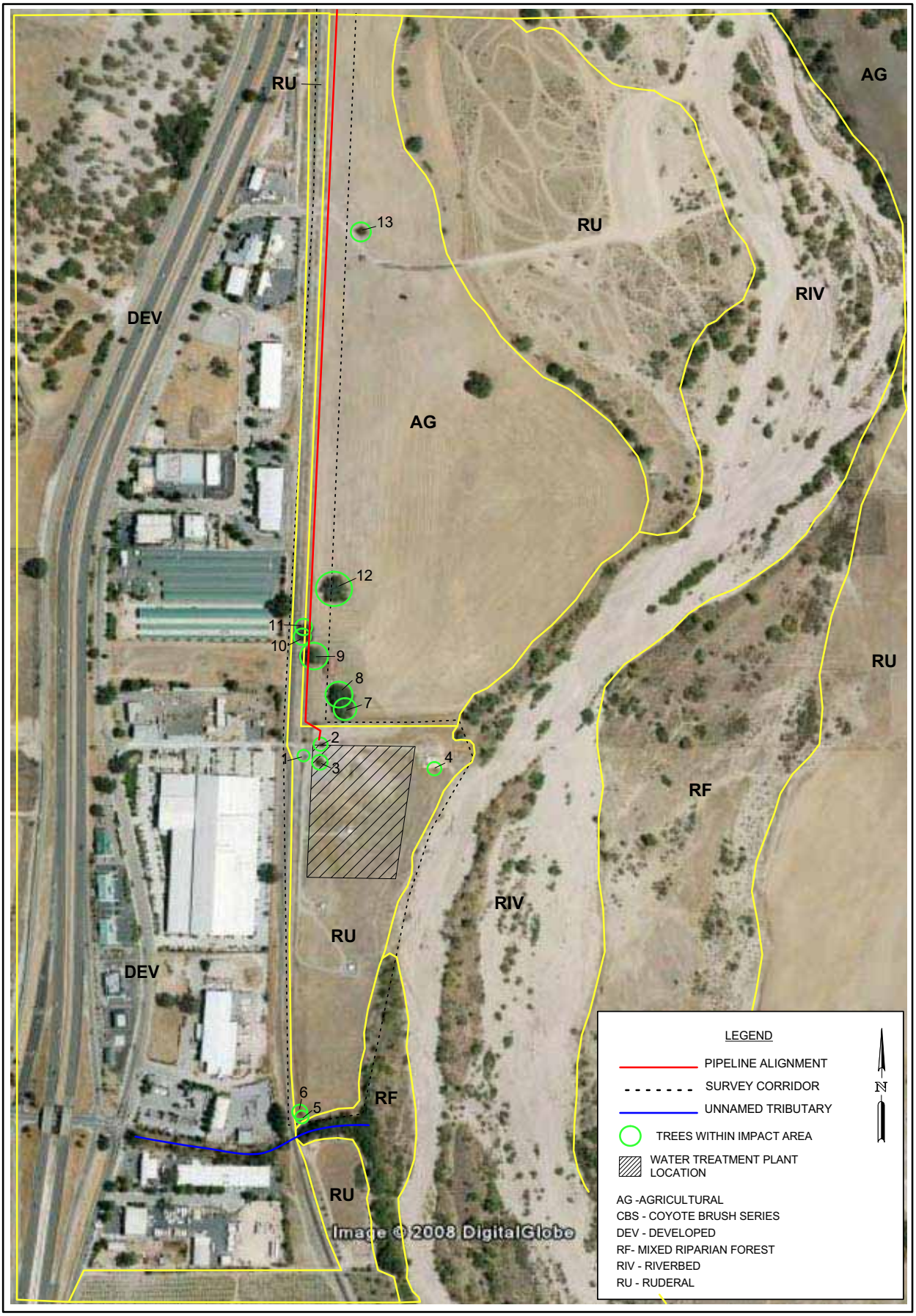
SITE PLAN

FIGURE 2



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City of Paso Robles
Water Treatment Facility Project
Paso Robles, California

PLANT COMMUNITY AND TREE INVENTORY MAP - SOUTH

FIGURE 3

June 2008
Project No. 0802-0381

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City of Paso Robles
Water Treatment Facility Project
Paso Robles, California

PLANT COMMUNITY AND TREE INVENTORY MAP- NORTH

FIGURE 4

June 2008
Project No. 0802-0381

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City of Paso Robles
Water Treatment Facility Project
Paso Robles, California

LIMITS OF WATERS OF THE U.S.

FIGURE 5

APPENDIX A

Site Photographs

Photo 1. Thunderbird Well Field, proposed WTP facilities location.

Photo 2. West side of proposed WTP location, adjacent to Salinas River.

Photo 3. Access roads on north side of proposed WTP location.

Photo 4. Southern section of proposed transmission pipeline corridor.

Photo 5. Proposed pipeline corridor adjacent to railroad tracks.

Photo 6. Fallow agriculture fields located along the proposed pipeline corridor.

Photo 7. Approximate location of proposed staging areas for HDD on west side of Salinas River.

Photo 8. Riparian habitat along Salinas River banks adjacent to proposed HDD staging area.

Photo 9. Proposed HDD Salinas River Crossing location.

Photo 10. Northernmost pipeline corridor adjacent to South River Road.

APPENDIX B

Vascular Plant Inventory

Vascular Plant Flora of the City of Paso Robles
Water Treatment Facility and Pipeline Alignment, San Luis Obispo County, California

Scientific Name	Common Name	Habit	Wetland Indicator Status	Family	Non-Native?
Acer negundo var. *californicum*	Box elder	T	FACW	Aceraceae	0
*Amaranthus albus**	Tumbleweed	AH	FACU	Amaranthaceae	1
Ambrosia psilostachya	Western ragweed	PH	FAC	Asteraceae	0
Amsinkia menziesii var. *intermedia*	Fiddleneck	AH	.	Boraginaceae	0
Anagallis arvensis *	Scarlet pimpernel	AH	FAC	Primulaceae	1
*Anthriscus caucalis**	Bur-chervil	A/PH	.	Apiaceae	1
Artemisia californica	California sagebrush	S	.	Asteraceae	0
Artemisia douglasiana	Mugwort	PH	FACW	Asteraceae	0
Avena fatua *	Wild oat	AG	.	Poaceae	1
Baccharis pilularis [B.p. var. consanguinea]	Coyote brush	S	.	Asteraceae	0
Baccharis salicifolia [B. glutinosa; B. viminea]	Mule fat	S	FACW	Asteraceae	0
Brassica nigra *	Black mustard	AH	.	Brassicaceae	1
*Brassica tournefortii**	African mustard	AH	.	Brassicaceae	1
Bromus diandrus *	Ripgut grass	AG	.	Poaceae	1
Bromus hordeaceus *	Soft chess	AG	FACU-	Poaceae	1
Bromus madritensis ssp. *rubens* *	Red brome	AG	NI	Poaceae	1
*Bromus tectorum**	Cheatgrass	AG	.	Poaceae	1
Camissonia campestris ssp. *campestris*	Mojave suncup	AH	.	Onagraceae	0
*Capsella bursa-pastoris**	Shepherd's purse	AH	FAC-	Brassicaceae	1
*Chamomilla suaveolens**	Pineapple weed	AH	.	Asteraceae	1
*Chenopodium album**	Pigweed, lamb's quarters	AH	FAC	Chenopodiaceae	1
Chenopodium californicum	California goosefoot	PH	.	Chenopodiaceae	0
*Cirsium vulgare**	Bull thistle	BH	FAC	Asteraceae	1
Conium maculatum *	Poison hemlock	BH	FACW	Apiaceae	1
*Convolvulus arvensis**	Bind weed	PV	.	Convolvulaceae	1
*Datura stramonium**	Jimson weed	AH	.	Solanaceae	1
*Descurania sofia**	Tansy mustard	A/BH	.	Brassicaceae	1
Erodium cicutarium *	Redstem filaree	AH	.	Geraniaceae	1
Eschscholzia californica	California poppy	AH	.	Papaveraceae	0
Foeniculum vulgare *	Sweet fennel	PH	FACU	Apiaceae	1
*Fumaria parviflora**	Fineleaf fumitory	AH	.	Papaveraceae	1
Galium aparine	Goosegrass	AH	FACU	Rubiaceae	0
Helenium puberulum	Sneezeweed	AH	FACW	Asteraceae	0
*Heteromeles arbutifolia [*var. *macrocarpa]*	Toyon	S	.	Rosaceae	0
Heterotheca grandiflora	Telegraph weed	PH	.	Asteraceae	0
*Hirschfeldia incana**	Summer mustard	BH	.	Brassicaceae	1
Hordeum murinum ssp. *leporinum* *	Hare barley	AG	NI	Poaceae	1
*Lamium amplexicaule**	Henbit	AH	.	Lamiaceae	1
Lupinus bicolor	Miniature lupine	AH	.	Fabaceae	0
Lupinus microcarpus var. *microcarpus*	Chick lupine	AH	.	Fabaceae	0
*Malva parviflora**	Cheeseweed	AH	.	Malvaceae	1
Marah fabaceus	California man-root	PV	.	Cucurbitaceae	0
*Marrubium vulgare**	Horehound	PH	FAC	Lamiaceae	1
*Medicago polymorpha**	Bur clover	AH	.	Fabaceae	1
Melilotus indica *	Sourclover	AH	FAC	Fabaceae	1
*Phalaris paradoxa**	Hood canarygrass	AH	.	Poaceae	1
*Pinus radiata***	Monterey pine	T	.	Pinaceae	1
Plantago lanceolata *	Narrowleaf or English plantain	PH	FAC-	Plantaginaceae	1
Populus fremontii	Fremont cottonwood	T	FACW	Salicaceae	0
Quercus agrifolia var. agrifolia	Coast live oak	T	.	Fagaceae	0
Quercus lobata	Valley oak	T	.	Fagaceae	0
*Raphanus sativus**	Radish	A/BH	.	Brassicaceae	1
Rhamnus californica	California coffee-berry	S	.	Rhamnaceae	0
Rumex crispus *	Curly dock	PH	FACW-	Polygonaceae	1
*Salix lasiolepis [*vars. *bracelinae & sandbergii; S. lutea* var. *nivaria; S. tracyi]*	Arroyo willow	S/T	FACW	Salicaceae	0
Salix lucida ssp. *lasiandra [S. lasiandra;* vars. *abramsii & lancifolia]*	Shining willow	S/T	NI	Salicaceae	0
Sambucus mexicana	Blue elderberry	S	FAC	Caprifoliaceae	0
*Schinus molle**	Peruvian pepper tree	T	.	Anacardiaceae	1
Scrophularia californica ssp. *californica*	California figwort	PH	FAC	Scrophulariaceae	0

Vascular Plant Flora of the City of Paso Robles
Water Treatment Facility and Pipeline Alignment, San Luis Obispo County, California

Scientific Name	Common Name	Habit	Wetland Indicator Status	Family	Non-Native?
*Silybum marianum**	Milk thistle	A/BH	.	Asteraceae	1
*Sinapsis arvensis**	Charlock mustard	AH	.	Brassicaceae	1
Solanum xanti	Purple nightshade	PH	.	Solanaceae	0
*Sonchus asper**	Prickly sow thistle	AH	FAC	Asteraceae	1
Toxicodendron diversilobum [Rhus diversiloba]	Poison oak	S/V	.	Anacardiaceae	0
*Trifolium fragiferum**	Strawberry clover	AH	.	Fabaceae	1
Urtica dioica	Stinging nettle	PH	FACW	Urticaceae	0
Verbena lasiostachys	Western vervain	PH	FAC-	Verbenaceae	0
*Vicia benghalensis**	Purple vetch	AV	.	Fabaceae	1
*Vulpia myuros var. hirsuta **	Foxtail fescue	AG	FACU*	Poaceae	1
					40

Notes: Scientific nomenclature follows Hickman (1993) and Skinner and Pavlik (1994) for native taxa and Bailey and Bailey (1976
Common names follow Abrams and Ferris (1960), Neihaus and Ripper (1976), and DeGarmo (1980)
An "*" indicates non-native species which have become naturalized or persist without cultivatior
An "**" indicates species which have been planted for landscaping

Habit definitions:
AF = annual fern or fern ally.
AG = annual grass.
AH = annual herb.
BH = biennial herb.
PF = perennial fern or fern ally.
PG = perennial grass.
PH = perennial herb.
PV = perennial vine.
S = shrub.
T = tree.

Wetland indicator status (Reed 1988): OBL = obligate wetland species, occurs almost always in wetlands (>99% probability
FACW = facultative wetland species, usually found in wetlands (67-99% probability)
FAC = facultative species, equally likely to occur in wetlands or nonwetlands (34-67% probability)
FACU = facultative upland species, usually occur in nonwetlands (67-99% probability)
+ or - symbols are modifiers that indicate greater or lesser affinity for wetland habitats
NI = no indicator has been assigned due to a lack of information to determine indicator status
* = a tentative assignment to that indicator status by Reed (1988).
A period "." indicates that no wetland indicator status has been given in Reed (1988)
Parentheses around an indicator status indicates the wetland status as suggested by David Magney

APPENDIX C

Tree Inventory

Tree Inventory – City of Paso Robles WTP Project (April 16, 2008)

Tree No.	Species	Size (DBH")	Canopy-N (ft)	Canopy-W (ft)	Canopy-S (ft)	Canopy-E (ft)	CRZ-N (ft)	CRZ-W (ft)	CRZ-S (ft)	CRZ-E (ft)
1	valley oak	8.6	10	7	9	10	15	12	14	15
2	valley oak	4.3	6	6	6	6	11	11	11	11
3	pine	10.0, 12.0, 14.0	15	11	12	15	20	16	17	20
4	valley oak	2.5	3	5	4	5	8	10	9	10
5	valley oak	2.5	3	4	3	2	8	9	8	7
6	valley oak	5	8	7	5	7	13	12	10	12
7	valley oak	47.6	39	42	55	31	44	47	60	36
8	valley oak	56.4	49	50	57	48	54	55	62	53
9	valley oak	51.3	39	30	39	31	44	35	44	36
10	valley oak	43.8	15	20	28	27	20	25	33	32
11	valley oak	50	25	21	27	21	30	26	32	26
12	valley oak	61.1	55	52	51	43	60	57	56	48
13	pepper	32.3	24	11	14	20	29	16	19	25
14	valley oak	24.0, 10.1, 19.1	32	26	33	24	37	31	38	29
15	valley oak	28.9	35	30	28	25	40	35	33	30
16	valley oak	25.2	37	30	41	30	42	35	46	35
17	valley oak	40.2	12	15	40	20	17	20	45	25
18	valley oak	22.2, 37.2, 11.4, 14.8	34	32	33	35	39	37	38	40
19	valley oak	23.2, 37.4	32	26	34	34	37	31	39	39
20	cottonwood	43.9	43	37	46	22	48	42	51	27
21	cottonwood	22.5	28	36	33	24	33	41	38	29
22	valley oak	39.0	30	0	33	31	35	5	38	36
23	valley oak	55.0	33	28	42	30	38	33	47	35

Definitions:

DBH - Diameter at Breast Height (inches) CRZ - Critical Root Zone

APPENDIX D

CNDDB Survey Results

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	***Actinemys marmorata pallida*** southwestern pond turtle	ARAAD02032			G3G4T2T3Q	S2	SC
2	***Agelaius tricolor*** tricolored blackbird	ABPBXB0020			G2G3	S2	SC
3	***Antirrhinum ovatum*** oval-leaved snapdragon	PDSCR2K010			G3	S3.2	4.2
4	***Antrozous pallidus*** pallid bat	AMACC10010			G5	S3	SC
5	***Aquila chrysaetos*** golden eagle	ABNKC22010			G5	S3	
6	***Ardea herodias*** great blue heron	ABNGA04010			G5	S4	
7	***Aristocapsa insignis*** Indian Valley spineflower	PDPGN0U010			G2	S2.2	1B.2
8	***Athene cunicularia*** burrowing owl	ABNSB10010			G4	S2	SC
9	***Branchinecta lynchi*** vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3	
10	***California macrophylla*** round-leaved filaree	PDGER01070			G3	S3.1	1B.1
11	***Calycadenia villosa*** dwarf calycadenia	PDAST1P0B0			G2	S2.1	1B.1
12	***Camissonia hardhamiae*** Hardham's evening-primrose	PDONA030N0			G1Q	S1.2	1B.2
13	***Castilleja densiflora ssp. obispoensis*** San Luis Obispo owl's-clover	PDSCR0D453			G5T2	S2.2	1B.2
14	***Caulanthus coulteri var. lemmonii*** Lemmon's jewelflower	PDBRA0M0E0			G4T2	S2.2	1B.2
15	***Chlorogalum purpureum var. purpureum*** purple amole	PMLIL0G051	Threatened		G1T1	S1.1	1B.1
16	***Chorizanthe rectispina*** straight-awned spineflower	PDPGN040N0			G1	S1.2	1B.3
17	***Delphinium umbraculorum*** umbrella larkspur	PDRAN0B1W0			G2G3	S2S3.3	1B.3
18	***Dendroica petechia brewsteri*** yellow warbler	ABPBX03018			G5T3?	S2	SC
19	***Entosthodon kochii*** Koch's cord moss	NBMUS2P050			G1	S1.3	1B.3
20	***Eremophila alpestris actia*** California horned lark	ABPAT02011			G5T3Q	S3	
21	***Eriastrum luteum*** yellow-flowered eriastrum	PDPLM03080			G2	S2.2	1B.2
22	***Falco mexicanus*** prairie falcon	ABNKD06090			G5	S3	
23	***Haliaeetus leucocephalus*** bald eagle	ABNKC10010	Delisted	Endangered	G5	S2	
24	***Horkelia cuneata ssp. puberula*** mesa horkelia	PDROS0W045			G4T2	S2.1	1B.1

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
25	***Horkelia cuneata ssp. sericea*** Kellogg's horkelia	PDROS0W043			G4T1	S1.1	1B.1
26	***Lasiurus cinereus*** hoary bat	AMACC05030			G5	S4?	
27	***Layia heterotricha*** pale-yellow layia	PDAST5N070			G2G3	S2S3.1	1B.1
28	***Lepidium jaredii ssp. jaredii*** Jared's pepper-grass	PDBRA1M0G1			G1T1	S1.2	1B.2
29	***Malacothamnus davidsonii*** Davidson's bush-mallow	PDMAL0Q040			G1	S1.1	1B.2
30	***Malacothrix saxatilis var. arachnoidea*** Carmel Valley malacothrix	PDAST660C2			G5T2	S2.2	1B.2
31	***Navarretia nigelliformis ssp. radians*** shining navarretia	PDPLM0C0J2			G4T2T3	S2S3.2	1B.2
32	***Navarretia prostrata*** prostrate navarretia	PDPLM0C0Q0			G2?	S2.1?	1B.1
33	***Neotoma macrotis luciana*** Monterey dusky-footed woodrat	AMAFF08083			G5T3?	S3?	SC
34	***Perognathus inornatus inornatus*** San Joaquin pocket mouse	AMAFD01061			G4T2T3	S2S3	
35	***Perognathus inornatus psammophilus*** Salinas pocket mouse	AMAFD01062			G4T2?	S2?	SC
36	***Phrynosoma coronatum (frontale population)*** coast (California) horned lizard	ARACF12022			G4G5	S3S4	SC
37	***Plagiobothrys uncinatus*** hooked popcorn-flower	PDBOR0V170			G2	S2.2	1B.2
38	***Polyphylla nubila*** Atascadero June beetle	IICOL68040			G1	S1	
39	***Rana aurora draytonii*** California red-legged frog	AAABH01022	Threatened		G4T2T3	S2S3	SC
40	***Spea hammondii*** western spadefoot	AAABF02020			G3	S3	SC
41	***Stebbinsoseris decipiens*** Santa Cruz microseris	PDAST6E050			G2	S2.2	1B.2
42	***Symphyotrichum defoliatum*** San Bernardino aster	PDASTE80C0			G3	S3.2	1B.2
43	***Taricha torosa torosa*** Coast Range newt	AAAAF02032			G5T4	S4	SC
44	***Taxidea taxus*** American badger	AMAJF04010			G5	S4	SC
45	***Trimerotropis occulens*** Lompoc grasshopper	IIORT36310			GH	SH	
46	***Triteleia ixioides ssp. cookii*** Cook's triteleia	PMLIL210A2			G5T2	S2.3	1B.3
47	***Valley Oak Woodland***	CTT71130CA			G3	S2.1	
48	***Vireo bellii pusillus*** least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	
49	***Vulpes macrotis mutica*** San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2T3	S2S3	

APPENDIX B

CULTURAL RESOURCES INVENTORY REPORT

PADRE ASSOCIATES

CULTURAL RESOURCES SURVEY REPORT FOR THE WATER TREATMENT PLANT INITIAL STUDY

PASO ROBLES, CALIFORNIA

AUGUST 2008

ALBION ENVIRONMENTAL, INC.

PADRE ASSOCIATES

CULTURAL RESOURCES SURVEY REPORT FOR THE WATER TREATMENT PLANT INITIAL STUDY

PASO ROBLES, CALIFORNIA

AUGUST 2008

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J2008008

EXECUTIVE SUMMARY

In March 2008, Padre Associates contracted with Albion Environmental, Inc. (Albion), to conduct cultural resources assessment for the Paso Robles Water Treatment Project, located in the southern part of the City, immediately west of the Salinas River in San Luis Obispo County. Proposed project facilities include a water treatment plant and associated facilities (on a 13-acre parcel), a treated water reservoir and pump station, and a transmission pipeline. Albion's investigation included a background records search at the California Historical Resources Information System Central Coast Information Center at the University of California at Santa Barbara, and a field investigation entailing pedestrian survey of the parcel for built environment and archaeological resources. A limited geoarchaeological investigation of the project area was also conducted to assess the potential for buried landforms and cultural deposits. The cultural resources evaluation was designed to adequately address treatment of cultural resources under current California Environmental Quality Act (CEQA) guidelines (Article 5: Section 15064.5).

A search of records at the Central Coast Information Center (CCIC) at the University of California, Santa Barbara indicated most of the project area had been previously inventoried for cultural resources. Three prehistoric sites are recorded directly in the project alignment: CA-SLO-1894, CA-SLO-1895, and CA-SLO-1896 are recorded as extensive habitation sites containing flaked and ground stone tools, and faunal remains including mammal bone and marine shell.

The records search identified two additional prehistoric sites within 0.25-mi of the project alignment. Sites CA-SLO-1297 and CA-SLO-2228 are located on a terrace on the east bank of the Salinas River, about 200 meters south of the proposed pipe alignment than runs east from the Salinas River to South River Road.

Portions of CA-SLO-1894, CA-SLO-1895, and CA-SLO-1896 (west of the current project area) were evaluated in 2003, in advance of the Thunderbird Wells 16-inch Waterline Project (Getchell and Atwood 2003). Limited subsurface investigations in the Thunderbird project corridor indicated only CA-SLO-1896 was significant, however, no additional investigation (data recovery) was completed; investigations at CA-SLO-1894 and CA-SLO-1895 were inconclusive. The report recommended that any other proposed projects involving portions of the archaeological sites outside the Thunderbird project corridor be subject to a more robust evaluation, including controlled hand excavation and selective screening of site deposits (Getchell and Atwood 2003:52).

After reviewing the records search results, Albion conducted an intensive pedestrian survey of the parcel. The single built environment resource noted during the survey is a Frame Vernacular-style barn, dating to the 1920s-1930s. The barn does not appear to be eligible for listing in either the California Register of Historical Resources or the National Register of Historic Places due to its lack of historical significance and integrity. A historic-era archaeological deposit consisting of a sparse scatter of household artifacts is located just southwest of the barn in a freshly plowed field.

Archaeological materials noted during the survey include a sparse to moderately dense accumulation of prehistoric artifacts noted just north of the 13-acre water treatment site along the proposed pipe alignment, for approximately 1500 meters. The artifact scatter confirms the location of the recorded archaeological sites CA-SLO-1894, CA-SLO-1895, and CA-SLO-1896. In addition, three isolated prehistoric artifacts (two groundstone fragments and one piece of flaked stone debitage) were

observed in the WTP parcel; two handstone fragments were found along the pipe alignment that travels west from Charolais Road.

The geoarchaeological assessment concluded that there is a low potential for buried soils along the project alignment east of the Salinas River (along Charolais Road). West of the river, the pipeline would traverse both Lockwood and Mocho soils on the stream terrace of the river. This relatively stable landform was created during alluvial deposition throughout the Holocene and may contain buried soils/cultural deposits.

Due to the location of significant (CA-SLO-1896) and potentially significant (CA-SLO-1894 and CA-SLO-1895) archaeological resources in the project area, as well as the high potential for buried cultural deposits in the project vicinity, it is recommended that potions of sites directly impacted by the project be formally evaluated prior to construction. The purpose of the evaluation is to: 1) determine if a site is a historical resource (significant cultural resource) (CEQA Guidelines §15064.5 [a]), and if so, 2) to assess project impacts to determine if they constitute a significant impact on the environment (CEQA Guidelines §15064.5 [b]); and 3) identify measures to mitigate significant impacts to historical resources (CEQA Guidelines §15064.5 [b] [4]). Due to the potential for buried landforms along the western terrace of the Salinas River, a backhoe should be employed during the evaluation to determine if buried soils are present.

In accordance with CEQA guidelines, it is also recommended that significant sites determined to require mitigation of project effects through thorough archaeological excavation be subject to Phase III Date Recovery Excavations. The goal of the data recovery should be to retrieve, analyze, and disseminate anthropological information stored in the in the part of the site that will be impacted by the project. Work should be guided by a treatment plan outlining pertinent research issues, field methods, laboratory processing, special studies, curation, and reporting requirements

Finally, due to the proximity of at least six archaeological sites (five prehistoric, 1 historic) and the potential for other subsurface archaeological deposits, it is recommend that a qualified archaeological monitor be present during all ground disturbance during project construction to ensure that any newly discovered resources are evaluated under current CEQA guidelines.

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INTRODUCTION

This report documents the results of a cultural resources survey for the City of Paso Robles Water Treatment Plant Project (Project) located in the southern part of the City in the County of San Luis Obispo (Figure 1). The City is a Project Stakeholder in the Nacimiento Water Project (NWP) currently being implemented by the San Luis Obispo County Flood Control and Water Conservation District (District). The NWP is a regional water supply system that will convey raw water from Lake Nacimiento to communities in San Luis Obispo County, including the City. The City will construct a water treatment plant to treat surface water received from Lake Nacimiento. The plant will provide additional treated water supplies to the City's distribution system west and east zones to address increasing water demands within the City's service area. The main proposed Project facilities include a water treatment plant, treated water reservoir and pump station, transmission pipeline, and appurtenances and other site improvements. Most of the project facilities are located on the west side of the Salinas River, east of the Union Pacific Rail Road. A segment of the transmission line crosses the Salinas River and trends east to its terminus at Charolais Road and South River Road.

Because the property is in an area designated as "archaeologically sensitive" by the City of Paso Robles, Albion was contracted to conduct a cultural resources evaluation of the project area. The completed evaluation comprised four tasks including: 1) a review of records from the CCIC of the Historical Resources Information System at University of California at Santa Barbara; 2) a surface survey of the parcel to identify built environment resources; 3) pedestrian survey to identify archaeological resources; and 4) a geoarchaeological assessment to determine potential for buried landforms and cultural deposits.

The investigation was designed to address identification of significant cultural resources under current California Environmental Quality Act (CEQA) guidelines under Section Article 5: Section 15064.5. All work was conducted in accordance with CEQA guidelines and regulations.

The records search at the CCIC was conducted by Albion staff archaeologist Stella D'Oro in April 2008. The subsequent pedestrian survey was conducted over several days including April 18, 2008 (built environment resources), April 22, 2008 (archaeological survey of pipe alignment), and April 25, 2008, (archaeological survey of 13-acre water treatment plant and facilities site).

The built environment survey was conducted by Monte Kim and Leslie Fryman of Albion Environmental, Inc. Mr. Kim holds a PhD in History and has worked in California for 10 years. Ms Fryman has an MA in Public History and Archaeology and has over 25 years experience in California.

The archaeological survey was conducted by Albion principal archaeologist Jennifer Farquhar, M.A. assisted by staff archaeologists Stella D'Oro and Sara Mellinger. Both Ms. D'Oro and Ms. Mellinger have B.A. degrees in Anthropology and have worked in California archaeology for 7 and 2 years respectively. Ms. Farquhar holds a M.A. in Anthropology, and has worked in California archaeology for over 18 years, the past six years in a supervisory capacity.

PROJECT LOCATION AND DESCRIPTION

The Project parcel is located near the intersection of Highway 101 and Highway 46 West, east of Ramada Drive and the Union Pacific Rail Road tracks. The proposed project includes the 13-acre parcel at the existing Thunderbird Well Field that will contain the water treatment plant and

Figure 1. Location map.

associated facilities (Photograph 1), and a narrow pipeline corridor that begins at the northwest corner of the Thunderbird Well Field (Figure 2). From this point, the pipeline traverses north for approximately 1600 meters across a west terrace of the Salinas River. The alignment then turns east and crosses the Salinas River. From this point, the alignment continues east for about 600 meters along unimproved Charolais Road, to its intersection with South River Road.

Photograph 1. View north of 13-acre water treatment plant parcel.

The following project description is abstracted from the Draft Initial Study/ Mitigated Negative Declaration by Padre Associates (2008). The WTP will treat raw water deliveries from the NWP, and will blend the treated surface water with groundwater from the Thunderbird Wells. The Project is designed as a 6 million gallon per day (mgd) facility for initial operation in Year 2010, expandable to 12 mgd to meet ultimate future demand. The primary WTP components include:

- Raw Water Facilities.
- Chemical Facilities.
- Treated Water Blending Facilities.
- Operations Building.
- Treated Water Reservoir and Pump Station.
- Transmission Pipeline.
- Appurtenances and Other Site Improvements.

Raw Water Facilities

The NWP raw water supply will be delivered to the WTP via NWP Turnout "T2" constructed as part of the NWP Project. The turnout will consist of flow metering and pressure reduction equipment and associated control panels on an above grade concrete pad. Current NWP plans for the turnout show its location approximately 290 feet west of the Salinas River on the WTP site.

Chemical Facilities

The Operations Building will house the ozone and chemical systems, including chemical metering pumps, ozone generation equipment and associated electrical equipment, liquid oxygen tank,

Figure 2. Project area with known cultural resources.

vaporizers, chemical storage tanks, and associated transfer pumps. The portion of the building housing storage tanks will be an open area with a building roof above. The tanks and equipment will be screened from view by landscaping.

Treated Water Blending Facilities

The filtered water from the membranes will be blended with water from the existing Thunderbird Wells at the WTP site, prior to entering the treated water reservoir. Quantities of well water and filtered water will be selected to meet the desired treated water qualities. Blending will be carried out prior to disinfection of the blended water.

Operations Building

The Operations Building will be located centrally within the WTP site area. The Operations Building will be approximately 120 feet wide by 240 feet long (28,800 square feet). The building will have rooms to house the membrane equipment, ozone and chemical equipment, and provide space for plant operators to work. Operations staff areas will include a control room; operator's laboratory; and restrooms/locker rooms. For site layout and planning purposes, a 4,000 square foot area within the Operations Building has been set aside for operations staff use.

Treated Water Reservoir and Pump Station

After disinfection, the treated (blended) water will be conveyed to the treated water reservoir for storage prior to being pumped out to the Main East and Main West distribution mains. The treated water reservoir will also provide the required contact time for disinfection when sodium hypochlorite is used as an alternative disinfectant.

A 1.2 million gallon welded steel treated water reservoir is planned for the north end of the site. The tank will be constructed at-grade, and will be approximately 100 foot diameter and 24 feet high. A future 600,000 gallon storage reservoir would be added when the plant is expanded to 12 mgd capacity.

The treated water pump station (TWPS) will convey water from the treated water reservoir to the distribution system. Dedicated pumps for Main East and Main West distribution mains are planned. The pumps will be vertical turbine type with a below grade suction connection to the pump can and above grade discharge.

The TWPS will be a single story building, approximately 30 feet wide and 90 feet long, with architectural treatment consistent with the remainder of the site. Removable skylights will be provided above each pump. The building will have two rooms: pump room and electrical room. The pump room will accommodate the vertical turbine type pumps in cans complete with motors, pump discharge piping, valves, an air compressor system for the valve actuators, and HVAC equipment. All of the electrical panels will be housed in the Electrical Room.

The TWPS building will be arranged such that the pump suction piping directs flow from the Treated Water Reservoir to the TWPS and the pump discharge piping directs flow from the TWPS to the northwest corner of the site. Surge tanks will be installed inside of the treated water pump station building.

Transmission Pipeline

A new transmission pipeline will be constructed to interconnect the WTP with the City's Main East distribution system. The treated water pump station will be connected to the east zone by connecting to both the existing east zone 16" pipeline and a new 24" pipeline, both of which would interconnect to the Main East zone at South River Road and Charolais Road. The new 24" pipeline will parallel the existing 16" pipeline north of the site and make a crossing of the Salinas River at Charolais Road.

The 24" Main East pipeline will be approximately 7,800 feet long, with approximately 800 feet of that total length to be installed as part of a crossing of the Salinas River.

To interconnect with the Main West distribution system, the treated water pump station will be connected to both the existing west zone 16" pipeline that goes north along the UPRR to 1st Street and the new Theater Drive pipeline. This connection will be made in the vicinity of the new pressure regulating valve vault at the northwest corner of the well field site.

Appurtenances and Other Site Improvements

A natural-gas powered standby engine generator will be provided to provide emergency power to the WTP in case of a Pacific Gas and Electric Company (PG&E) electrical power failure. The standby engine generator will be located centrally on site. The generator will be mounted on a concrete pad and located outdoors under a canopy structure as required. Acoustic treatment will be provided as required to mitigate noise issues. Generator sizing is currently being reviewed with the City and will be finalized during the final design phase.

A sanitary lift station will be provided as required. An overflow retention basin, stormwater collection pond and lift station will be provided as required. Adequate landscaping will be provided to screen the facilities from view.

SOURCES CONSULTED

In order to determine if cultural resources are recorded within or near the project area, the following sources were conducted as part of the CCIC records search:

- National Register of Historic Places. No listings of resources within a 0.25-mile radius of the project area.
- California Register. No listings of resources within a 0.25-mile radius of the project area.
- California Historical Landmarks. No listings of resources within a 0.25-mile radius of the project area.
- California Points of Historical Interest. No listings of resources within a 0.25-mile radius of the project area.
- California Inventory of Historic Resources. No listings of resources within a 0.5-mile radius of the project area.

A search of archaeological records and maps housed at the CCIC indicates 23 cultural resource studies have been conducted within a 0.25-mile radius of the project area; five prehistoric

archaeological sites have been recorded. Site CA-SLO-1297, located about 450 meters southwest of the terminus of the pipeline alignment at Charolais Road, is recorded as a bedrock mortar site situated on a bend above the Salinas River (Dills 1990a). Site CA-SLO-2228 immediately north of CA-SLO-1297 is recorded as a lithic workshop area, likely severely impacted by residential construction and an installment of a sewer line through area in the 1970s (Singer 2003).

Site CA-SLO-1894 is located directly in current pipeline alignment, located about 700 meters north of the 13-acre water treatment site. The site is recorded as eight artifact concentrations within an area measuring 665m (N/S) by 25 m (E/W) (Atwood and Getchell 1998a). Artifacts observed included groundstone implements, projectile points, flake tools, tool making debris, and marine shell. The site record states the site has high research potential, and is likely to be relatively intact (agricultural disturbance to about 20 cm below surface). The site was evaluated in 2003 in advance of the Thunderbird Wells 16-inch Waterline Project (Getchell and Atwood 2003). The investigation was limited to eight shovel probes excavated to a depth of 40 cm below surface; no site deposits were encountered during this effort. The authors concluded that the surface manifestation was the result of agricultural activities, and recommend testing of areas to the east for future projects. Recommendations also included a stipulation that future investigations employ controlled hand excavation and selective screening of site deposits (Getchell and Atwood 2003:52).

Site CA-SLO-1895, about 100 meters south of CA-SLO-1894, is adjacent to the current project corridor, The site contains groundstone implements, projectile points, flake tools, tool making debris, and marine shell disturbed across an area measuring 65 m (n/S) by 55 m (E/W) (Atwood and Getchell 1998b). The site was evaluated in 2003 in advance of the Thunderbird Wells 16-inch Waterline Project (Getchell and Atwood 2003). The investigation was limited to two shovel proves excavated to a depth of 60 cm below surface; no subsurface deposits were encountered during this effort. The authors recommended testing of portions of the site to the east of the Thunderbird project area for future planned projects. They further recommended that future investigations include controlled hand excavation and selective screening of site deposits (Getchell and Atwood 2003:52).

Site CA-SLO-1896 located just north of the water treatment site (at southern terminus of the proposed pipeline alignment), is recorded as a large prehistoric habitation area measuring about 190 m (N/S) by 80 m (E/W). A wide range of flaked and groundstone tools were noted as well as marine shell and deer bone (Atwood and Getchell 1998c). The site was evaluated in 2003 in advance of the Thunderbird Wells 16-inch Waterline Project (Getchell and Atwood 2003). The investigation included 21 shovel proves and one excavation unit (1.0 m X 0.5 m) excavated to a depth of 60 cm below surface. Forty-one surface scrapes were performed to collect surface artifacts. The investigation revealed a range of artifacts and ecofacts including two groundstone implements, one core, two projectile points, 11 flake tools, 29 pieces of debitage, three shell beads, bead manufacturing debris, marine shell, mammal bone, and fire affect rock. The authors determined that while the site yielded information important to prehistory (a significant resource under CEQA); further data recovery in the area impacted by the Thunderbird project was not likely to produce further information. As with CA-SLO-1894 and CA-SLO-1895, the authors recommend future projects planned for the area east of the Thunderbird be subject to additional testing and data recovery investigations (Getchell and Atwood 2003:51). Recommendations included the stipulation that future investigations include controlled hand excavation and selective screening of site deposits (Getchell and Atwood 2003:52).

BACKGROUND

Environment

The general project vicinity is situated within the South Coast Range physiographic province. This range consists of a series of longitudinal mountains and valleys, which parallel the coastline and separate the Pacific Ocean from the Central Valley. It runs for nearly 250 miles, from the San Francisco Bay Area to the Santa Ynez Mountains of the Transverse Ranges in the south. The range is highly folded and fractured, and is generally attributed to events associated with subduction of the Pacific Plate beneath the western border of North America. Steep slopes with exaggerated relief are common where the mountains rise abruptly from the sea. Overall, however, this range is not particularly high. The range averages 760 meters in height, with occasional peaks reaching over 1830 meters, most notably in the Santa Lucia Range (Burcham 1957:55).

Geologically, the South Coast Range is a diverse region consisting predominantly of marine-derived Miocene and Pliocene-age sedimentary rocks (Alt and Hyndman 2000; Christensen 1966; Compton 1966; Dupre 1991; Hart 1976; Lewis et al. 1991; Norris and Webb 1976:245-288; Page 1966). However, the eastern portion of the South Coast Ranges is much older and is characterized largely by the Cretaceous-age Franciscan formation, which consists of sandstone, chert, serpentine, basalt, greenstone, shale, and blue schist. To the west is the so-called Salinian block, a large zone of granitics and metamorphic rocks. It dates from the Paleozoic and is comprised of metamorphosed marine sedimentary rocks including schist, quartzite, granulite gneiss, granofels, and marble. West of the Salinian block is the Nacimiento fault, which trends northwest to southeast. Much of the exposed rocks in the South Coast Ranges, however, belong to the so-called Paso Robles formation, which dates to the Plio-Pleistocene era and is made up chiefly of conglomerate and sandstone but also includes some mudstone (Burch and Durham 1970:5). Quaternary stream deposits, consisting of unconsolidated gravel, clay, and silt, overlie the Paso Robles formation.

The immediate project area is situated on an elevated terrace on the western banks of the Salinas River; area geology is characterized by Quaternary-age non-marine terrace deposits associated with the Salinas River drainage system (Jennings and Standard 1992).

Soil types in the project area as mapped by the San Luis Obispo-Paso Robles soil survey are Pico fine sandy loam, Lockwood shaly loam, Mocho clay loam, xerofluvents (riverwash), and Metz-Tujunga complex (occasionally flooded) (1979). Of these soil types, only two are located in suitable environments for containing Holocene age buried soils (and possibly cultural deposits): Mocho and Lockwood. The xerofluvents (active river deposits) could not contain intact cultural deposits due to the large sediment loads that frequently move through the river system.

The regional climate is Mediterranean, typified by long, hot summers and mild, wet winters. Summer temperatures average around 30º C to 34º C (87º F-94º F), though during the height of summer, temperatures in excess of 38º C (100º F) are common. Winter temperatures, by contrast, hover around 14º C (57º F) during the day but can fall to 1.1º C (30º F) at night. The Santa Lucia Range acts as a minor rainshadow for the Salinas Valley and, consequently, rainfall totals are less east of the range than along the coast. Average precipitation is approximately 384 mm (15 inches) per year and is derived from Pacific storms that sweep inland during the winter months, especially from November through March. Occasional torrential rains are common, usually occurring during so-called El Niño Southern Oscillation (ENSO) events. Drought years are common as well. The severe drought of 1862-64, for example, wreaked economic havoc on many of the Mexican *ranchos* in the area by killing off herds of cattle. While snowfall is extremely rare, frost during the winter does occur on

occasion. Today, the Salinas River flows at the surface only during seasons of heavy rainfall; surface flow has been likely reduced by numerous municipal and private wells. In earlier times, surface flow was likely to be year round.

Prehistoric Context

Cultural Chronology

Archaeologists working in central California have generally recognized six major prehistoric periods of cultural adaptation within the last 10,000-year record of human occupation (T. Jones and Ferneau 2002). This six-period temporal framework is presented in Table 1, and is based on the work of T. Jones and Ferneau (2002). The initial period, Paleoindian, originated during the Late Pleistocene and continued until approximately 8,500 B.P. This was followed by the Millingstone (8,500-5,500 B.P.), during which milling equipment (manos and metates) become increasingly abundant in the archaeological record and populations apparently followed a generalized subsistence pattern. The ensuing period, the Early Period (5,500-2,600 B.P.), was a time of new subsistence emphases, including a greater reliance on hunting and the exploitation of acorns. The Middle Period (2,600-1,000 B.P.) was marked by the intensification of subsistence practices, especially a greater reliance on marine and littoral foods. During the Middle/Late Transition (1,000-750 B.P.), central Californian populations experienced deteriorating environmental parameters, and apparently underwent major adaptive shifts in both subsistence and settlement. Finally, the Late Period (750-200 B.P.) was a time marked by the appearance of numerous projectile points, including small side-notched (Desert side-notched), triangular (Cottonwood series), and leaf-shaped points.

Archaeological evidence for terminal Pleistocene/early Holocene occupation of the central California coast region is limited. Few components from this period have been investigated, and many questions regarding settlement, subsistence, stone industries, and social organization, among others, remain unanswered. In general, researchers normally divide this time span into two divisions: the Paleoindian (pre-8,500 B.P.) and the Millingstone (8,500-5,500 B.P.). As summarized by Moratto (1984) and Davis et al. (1969:7), Paleoindian, or Paleo-Coastal, sites date from 11,000 B.P. to approximately 8,500 B.P. and are generally found along estuaries, bay shores, and islands. Faunal assemblages are reported to contain an array of shellfish, marine and land mammals, birds, and fish (although very few faunal analyses have been conducted from these early sites). Sites attributed to the Millingstone Period, by contrast, are best characterized by high density shell middens. As the name for this period implies, site assemblages are dominated by abundant milling stones and handstones and a low incidence of projectile points and other flaked stone (Meighan 1978; Erlandson 1991, 1994; Fitzgerald and T. Jones 1999). Erlandson (1991, 1994) has suggested that Millingstone Period groups were semi-sedentary, their diets emphasizing shellfish and other marine foods. Other researchers, however, have argued that both coastal and interior habitats were exploited by early Holocene populations targeting a variety of grass seeds, nuts, and other inland plant taxa as well as shellfish (Hildebrandt 1994; T. Jones and Richman 1995; Mikkelsen et al. 1998).

In San Luis Obispo County, Moratto (1984:107-108) includes the lower levels of the Diablo Canyon sites (CA-SLO-2 and CA-SLO-585), which produced dates of ca. 9,320 B.P. (calibrated 10,552 B.P.) and 8,410 B.P. (calibrated 8976 B.P), respectively, as part of the Paleo-Coastal Tradition. Greenwood (1972), however, has contested Moratto's claim, citing artifactual evidence from the earliest occupations at the same Diablo Canyon sites. In her original monograph, she indicated that the associated artifacts were typical of Millingstone Period assemblages rather than belonging to an earlier hypothesized Paleoindian occupation. Based on this evidence, she advanced the idea that Millingstone Period adaptations may have had a greater time depth than previously conceived.

> The lowest levels at Diablo Canyon verify a Milling Stone base in San Luis Obispo county….However, the dates are earlier than any currently accepted for the Bay, Valley, and Delta manifestations (Greenwood 1972:92).

Table 1. Chronological framework.

Years Before Present (B.P.)	Jones and Ferneau (2002)	Greenwood (1972)
		Chumash (Canaliňo)
200	Late Period	
750	Middle/Late Transition	
1,000	Middle Period	Hunting
2,600	Early Period	
5,500	Millingstone	Millingstone
8,500	Paleo-Indian	
10,000		

Indeed, in recent years, several researchers have challenged Moratto's claim. Evidence of Paleoindian (11,000-8,500 B.P.) occupation of the San Luis Obispo district is essentially lacking. Although radiocarbon dates extending into the Paleoindian Period have been reported at a number of sites (Fitzgerald 2000; Fitzgerald and T. Jones 1999; Greenwood 1972), the associated artifacts are typical of Millingstone Period assemblages, and potentially indicate that this adaptation extended back to ca. 10,000 years B.P. (D. Jones et al. 2002).

The Cross Creek site (CA-SLO-1797), although containing radiocarbon dates ranging between 7,300 and 10,300 B.P., contains an artifact assemblage that conforms well with known artifact profiles from the Millingstone Period (Fitzgerald 2000). Located approximately 9 km inland from Pismo Beach, the site is dominated by milling equipment, primarily millingslabs and handstones.

> The dominance of the grinding equipment, the presence of hammerstones (used for the manufacture and maintenance of the groundstone), the total absence of mortars and pestles, the 6:1 ratio of milling tools to projectile points and bifaces, and the very low density of debitage recovered per cubic meter soil excavated (circa 20.0 m^2) are all traits diagnostic of the Millingstone Horizon (Fitzgerald 2000:116).

Other sites attributable to the Millingstone Period in San Luis Obispo and Monterey Counties include the Morro Bay site (CA-SLO-165), the Salinas River Crossing site (CA-SLO-1756), the San Simeon Reef site (CA-SLO-177), and a site located along the Big Sur coast, CA-MNT-1232/H. Two recently investigated sites near Pismo Beach, CA-SLO-1764 and CA-SLO-832, also demonstrate evidence of Millingstone occupation (Lebow et al. 2001; D. Jones et al. 2002).

The next few thousand years (between 5,500 and 2,600 B.P.) are referred to as the Early Period throughout southern and central California. Most notable about prehistoric adaptations at this time are innovations in subsistence technology, marked by the initial use of mortars and pestles and an increase in frequencies of large side-notched projectile points and flaked stone debris. In contrast to the previous period, Early Period populations placed more emphasis on terrestrial mammals and fish. T. Jones (1995) and T. Jones and Waugh (1997) also posit a decrease in residential mobility, which they attribute to the advent of mortar use and a clearer delineation of gender roles that accompanied a trend toward greater population circumscription. Some archaeologists initially thought these changes were evidence of an incursion by a separate ethnic population at the beginning of the Early Period (Rogers 1929; Harrison 1964; Warren 1968), but this premise has been discounted largely in favor of the idea that observed differences in artifact assemblages are probably more indicative of seasonal or functional variability in site occupations (Erlandson 1997; Glassow 1997). The appearance of eastern California obsidian (mainly Casa Diablo) in Early Period assemblages also implies that long-distance exchange relations developed during this period (T. Jones 1995).

There are a plethora of Early Period sites along the central coast of California. Many of these are located in San Luis Obispo County, including the Little Pico Phase I component (CA-SLO-175), CA-SLO-1259, and a component from the Morro Bay site (CA-SLO-165). Farther north, in Monterey County, sites representing the Early Period include CA-MNT-73 and CA-MNT-1228, both of which are located in Big Sur. As studied by T. Jones (1995:203-204), these latter two sites demonstrate the use of mortars and pestles and stemmed and side-notched projectile points.

From about 2,600 to 1,000 years B.P. (the Middle Period), many of the adaptive trends initiated during the Early Period continued and grew in relative importance. The use of mortars and pestles increased, as did a reliance on small fish, sea otters, and rabbits, and the use of shellfish appears to have steadily declined. According to T. Jones (1995), obsidian from the Coso Volcanic Field in eastern California first occurs in Middle Period sites on the Big Sur coast. Despite these changes, and the addition of many temporally diagnostic artifacts to period assemblages (e.g. Contracting-stem points, a variety of shell-bead forms, and the circular shell fishhook), T. Jones (1995) and T. Jones and Waugh (1995, 1997) suggest that adaptive variations occurring at the Early/Middle Period transition were less pronounced than those that characterized the Millingstone/Early Period transition. It should be recognized, however, that many of the subsistence changes occurring during the Middle Period reflect a growing importance of labor-intensive foodstuffs (e.g. acorns, fish). This premise is noted as being consistent with a “slowly increasing population and a gradually intensifying economy”

(T. Jones 1995:214). Glassow (1996) and Lambert (1993) place an even stronger emphasis on Middle Period fishing in southern California, arguing that both fishing and sea mammal hunting were expanded to include habitats around the Santa Barbara Channel Islands.

Evidence of Middle Period occupation in central California is best represented by the Little Pico Creek Phase II component (CA-SLO-175). This component contains numerous contracting-stemmed projectile points, mortars and pestles, and fishing equipment, including grooved and notched net weights, and shell fishhooks. CA-MNT-229, located near the Elkhorn Slough in northern Monterey County, and CA-MNT-282, located in southern Monterey County near Cape San Martin, also represent Middle Period occupations. Both of these latter sites demonstrate an increase in fishing from the previous period (T. Jones 1995:204).

Mikkelsen et al. (1998) place the Middle/Late Transition between 1,000 and 750 years B.P. Contracting stem and double Side-notched projectile points are typical of this period, as are several types of *Olivella* shell beads and curved shell fishhooks, and hopper mortars and a small leaf-shaped point may have emerged for the first time. At about 1,000 B.P., marine resource use on the central coast may have reached its peak, but by 700 B.P. both fish and marine mammals appear to have been dropped from native diets, at least in Monterey County. During the transition, T. Jones (1995:215) also suggests that many residential sites were relocated to more inland settings where groups exploited a small variety of faunal taxa and storable foods (acorns), and that the Casa Diablo exchange system essentially collapsed as well. Until recently, it has been held that these changes resulted from an overexploitation of coastal resources (T. Jones 1992; T. Jones and Waugh 1995), but more recent examinations have argued that these shifts are inconsistent with the tenets of subsistence intensification, which predict an expansion of the terrestrial resource base rather than the selection of a few specific food types. T. Jones (1995) has proposed that a climatic warming trend, the "Medieval Warm Period," identified at approximately 1,000-600 B.P. (Graumlich 1993; Stine 1990, 1994), may have been responsible for a deterioration of coastal resources that eventually forced central coast groups to move toward the interior. T. Jones (1995:223) concluded that:

> Serious drought after A.D. 1000 (950 B.P.) caused such rapid, severe deterioration of the resource base that major subsistence problems developed, causing widespread settlement shifts and resource competition. Unlike the environmental changes of the early and mid-Holocene, technological innovations could not mitigate the environmental problems, because they developed rapidly and were severe.

Archaeological sites from the Middle/Late Transition are poorly represented in the San Luis Obispo region, though evidence for this time period comes from CA-SLO-239, a large habitation site located along the shores of Morro Bay. First excavated by Clemmer (1962), the site yielded a rich midden deposit containing shellfish and other faunal remains, and stone and bone tools. Numerous hearth features, several burials, and a large sweat lodge were also found. Sites from this interval occur with greater frequency in Monterey County, especially along the Big Sur coast (T. Jones and Ferneau 2002:26). CA-MNT-281 and CA-MNT-1233, both located near the coast, represent this occupation.

Late Period (750-200 B.P.) populations on the central coast apparently rebounded from the environmental stresses that characterized the previous period. However, unlike populations along the Santa Barbara Channel – such as the Chumash and the Gabrielino – the inhabitants of the central coast did not undergo increasingly maritime adaptations. Their subsistence practices continued to demonstrate a terrestrial focus. T. Jones (1995:221), for example, indicates that the consumption of fish and other marine resources were less intensive and the extraction of mussels perhaps somewhat more selective than during the previous interval. From an analysis of several sites in Big Sur, T. Jones (1995:206) suggests that Late Period populations focused their subsistence activities on black-tailed

deer (*Odocoileus hemionus*). T. Jones also suggests that central coast sites dating to this time period, excluding habitation sites along productive estuaries, probably represent specialized forays made from large interior settlements. Nor did populations undergo transformational changes in social and political organization that led to greater complexity. Instead, human populations in these areas maintained a tribelet system of socio-political organization (T. Jones 1995:223). Artifact assemblages from this time are marked by contracting-stem, leaf-shaped, and small, triangular-shaped and side-notched projectile points, mortars and pestles, and a variety of late prehistoric bead types.

Few Late Period components in San Luis Obispo County have been identified (D. Jones et al. 2002:13; Basgall 2003:15). One of the few well-studied Late Period components, however, is CA-SLO-214, which was first identified by Hoover and Sawyer (1977). Located south of Morro Bay, CA-SLO-214 yielded numerous small projectile points (such as small, side-notched and Cottonwood triangular types), and a small collection of ground stone implements (such as handstones, pestles, and millingstones). Several bead types were also recovered during the excavations and included E1, E2, H3, K3, and K1 *Olivella* beads, *Mytilus* disk beads, steatite beads, and clam disk beads. Late Period sites in Monterey County are much more numerous than those in San Luis Obispo County. As reported by T. Jones (1993), CA-MNT-1223 produced an assemblage of side-notched and Cottonwood triangular points, a mortar hopper, and Class E *Olivella* beads.

History of Regional Research

San Luis Obispo County

Until quite recently, San Luis Obispo County was one of the most poorly understood archaeological regions in California (T. Jones and Ferneau 2002:14). Although work had been conducted there since the late nineteenth century, a significant understanding of the area's archaeology did not come until much later.

Paul Schumacher conducted the earliest documented research in San Luis Obispo County in the 1870s (Breschini and Haversat 1988a; Breschini et al. 1983; Fitzgerald 1997a:21). According to Breschini et al. (1983), Schumacher worked at three localities: CA-SLO-56 near Avila Beach, and CA-SLO-94 and CA-SLO-95 on the Cuyama River. Schumacher failed to provide detailed reports of his findings but is credited with removing literally "tons" of artifacts and "hundreds" of burials (T. King 1970; Greenwood 1978). Around the same time, several other antiquarians and pot-hunters canvassed the region, searching for valuable archaeological materials. Leon de Cessac, who worked for the French government, conducted collecting forays and gathered an impressive array of antiquities, most of which he shipped back to France. He was followed by R.W. Summers and S.C. Freer who investigated numerous sites and collected artifacts from the Avila Beach area. The materials they collected are reportedly housed in the British Museum (Greenwood 1972:3).

By far the most ardent early antiquarian was the reverend Stephen Bowers who, from the 1870s into the early twentieth century, made collecting forays throughout much of southern California, including San Luis Obispo County. Described as a "notorious pot-hunter," he was responsible for the "near complete destruction of scores of sites in the area [around Guadalupe and the mouth of the Santa Maria River]" (Horne and Glassow 1974:7). His years of collecting resulted in a treasure-trove of prehistoric artifacts, most of which he eventually sold to museums.

As the first half of the twentieth century progressed, the nature of archaeology in California began to change. Researchers began to focus their energies on interpretation rather than museum-quality artifacts. Unlike their predecessors, these researchers were passionately interested in the peoples and cultures that had produced the artifacts. In particular, they wanted to build "culture chronologies," or developmental sequences to show temporal changes for the prehistory of California. Rogers (1929)

put forward perhaps the most influential chronology for the Santa Barbara region. He suggested a three-part chronology based on changes in artifacts, burial practices, and subsistence focus. The initial phase of his sequence, the "Oak Grove" culture, was characterized by abundant milling stones (metates and manos) and was viewed as a generalized hunting and gathering adaptation with emphasis on seed collecting and shellfish gathering. The intermediate phase, "Hunting" culture, was, as its name implies, an adaptation focused almost predominantly on mammals. The final phase of Rogers' sequence, the Canaliño, was characterized by cultural attributes considered precursory to the ethnohistoric Chumash.

Despite this new emphasis, no cultural chronologies specific to the San Luis Obispo region were produced. Instead, much of the prehistory of the area was interpreted in reference to the cultural chronologies of Olson (1930), Orr (1943), and, especially, Rogers' (1929) Santa Barbara Channel sequence. For example, in 1941, George Carter, who conducted some of the first systematic excavations in the region (Bouey and Basgall 1991:20), interpreted his findings in reference to the framework established by Rogers (1929). Carter excavated a midden at Point Sal and was able to discern two distinct cultural strata, which he attributed as belonging to Rogers' Hunting and Canaliño patterns.

Following the work of Carter, the region was not investigated again until some twenty years later. In 1958, Wallace recorded a total of 69 archaeological sites in the area around the towns of Arroyo Grande, Grover City, and Oceano. He subjected 7 of these sites to subsurface excavation, and reported his findings. Like Carter, Wallace interpreted the recovered archaeological data in reference to the chronology of Santa Barbara County. He concluded:

> It is possible to make some useful comparisons with cultural manifestations in the archaeological better-known Santa Barbara coastal district. Practically all the Arroyo Grande artifacts can be duplicated in collections from Santa Barbara County. This suggests that the archaeological complexes present…are probably the same as those known farther south, and that the local chronology rather closely parallels the threefold Oak Grove, Hunting, and Canaliño (or Chumash) sequence of Santa Barbara County (Wallace 1962:42-43).

Wallace's work was followed by investigations at Whale Rock (Reinman 1961); Vaquero Reservoir (Wire 1961; Smith 1961); Avila Beach (Moriarity and Burns 1962); and Morro Bay (Clemmer 1962). The majority of these projects were initiated by the passage of the Reservoir Salvage Act of 1960. Reinman's work at Whale Rock consisted of salvage excavations at five sites, including CA-SLO-157, which produced a radiocarbon date of 1,620 B.P. (LJ-236). Investigations at the Vaquero Reservoir east of Nipomo included reconnaissance, surface collection, and limited subsurface excavation. Moriarity and Burns investigated CA-SLO-56 in Avila Beach and obtained a radiocarbon date of 5020±150 (LJ-529) from shell at the bottom of the site. Working for the Central California Archaeological Foundation, Clemmer excavated a late prehistoric house floor at Morro Bay that, although no radiocarbon dates were forthcoming, he attributed to the Canaliño phase.

During the late 1960s, the UCLA archaeological Survey conducted excavations at Little Pico Creek (CA-SLO-175) and Pico Creek (CA-SLO-179) along the northern San Luis Obispo coast near San Simeon (Abrams 1968; Leonard et al. 1968). Both projects were initiated in response to state highway widening construction. A large volumetric sample was excavated at Little Pico Creek (CA-SLO-175) over the course of two successive excavations. A well-developed midden deposit with a wide array of artifacts and organic remains was reported. Two radiocarbon assays were obtained from the site. These were 690±90 (UCLA-1231) and 3180±600 (UCLA-1092). Unfortunately, few data are available for the Pico Creek site (CA-SLO-179) (Bouey and Basgall 1991:20).

A few other excavations were undertaken in San Luis Obispo County during the late 1960s and early 1970s (Binning n.d.; Reddell 1970; Tainter 1971), several of which were initiated in response to the burgeoning field of CRM archaeology. In general, these excavations were small in scale and not well reported. By contrast, Greenwood's 1972 excavations at six sites in Diablo Canyon (CA-SLO-2, CA-SLO-51, CA-SLO-52, CA-SLO-61, CA-SLO-584, and CA-SLO-585) represent the largest, most systematic and significant archaeological investigations in San Luis Obispo County up to that time. Greenwood identified a series of components that spanned over 9,000 years of prehistory. Basal levels at the oldest components demonstrated cultural affiliations with the so-called Millingstone/Encinitas pattern. The Hunting pattern was also represented by the presence of contracting-stem/side-notched projectile points. The latest dated components were consistent with the Canaliño pattern, with small, triangular points and shell ornaments. As Jones and Waugh (1995:10) have concluded:

> Among the most significant research yet completed in San Luis Obispo County, this project produced meaningful samples that were relatively well documented and dated. Recovered materials confirmed parallels between San Luis Obispo County and the Santa Barbara Channel, and demonstrated a time depth of approximately nine thousand years of regional cultures.

Following in the wake of Greenwood's excavations at Diablo Canyon, there were a few other archaeological projects carried out in San Luis Obispo County during the 1970s (Baker 1977; Hoover and Sawyer 1977; Gibson 1979; Pierce 1979). Foremost among these investigations was Gibson's (1979) summary of previous excavations conducted in the Lodge Hill area near the town of Cambria, and Pierce's (1979) analyses at CA-SLO-177. In general, the archaeology of the Lodge Hill area discloses that occupation spanned a time period from 3000 B.C. to A.D. 1700. Occupation continued apparently intermittently, with Millingstone, Hunting, and Canaliño patterns all represented. CA-SLO-177, a rich, black midden containing numerous shell and burnt rock, produced a radiocarbon date of 8290±100 B.P. (Beta-7035), placing initial occupation of the site during the early Holocene.

Over the last twenty or so years, several small-scale, and a few large-scale, archaeological projects have been conducted in San Luis Obispo County (Hines 1986; Breschini and Haversat 1988a; Bouey and Basgall 1991; T. Jones and Waugh 1995; Fitzgerald 1997a, 1998, 2000; Mikkelson et al. 2000; Lebow et al. 2001; T. Jones and Ferneau 2002; D. Jones et al. 2002; Parker 2002). These projects, many of which the result of cultural resource management legislation, have produced a steady progression of research. For example, T. Jones and Waugh (1995) revisited the Little Pico Creek site and argued for the existence of a significant degree of economic and social intensification. Fitzgerald's (1997a, 1998) work near the Salinas River and at the Cross Creek site (CA-SLO-1797) produced evidence of a Millingstone occupation dating to ca. 8300 B.C.

Paso Robles and Atascadero Locality

Archaeological investigations in the vicinity of the Paso Robles are largely the result of legally mandated conservation efforts. The rapid development in the area since the 1970s, which has threatened numerous archaeological resources, has spawned a number of survey and excavation projects. Despite this, a relatively small amount of research-oriented archaeological investigation has been conducted in the area (Farrell 2000:15-16).

The first recorded CRM excavation in the Paso Robles locality was conducted by Gibson (1978) at CA-SLO-834, located along the western bank of the Salinas River. This project, prompted by the construction of the Atascadero Wastewater Facility, excavated a total of 3.75 m^3 of deposit. Recovered artifacts included hammerstones, pestles, scrapers, bifaces, two projectile points, and a scattering of lithic debris. A rock-lined hearth and some faunal remains were also recovered.

Although the site was not radiocarbon-dated, Gibson (1978) concluded, based on the presence of a contracting-stem point, that it was occupied within the last 1,500-2,000 years. Nine years later, Gibson (1987) tested CA-SLO-1225, also located on the western side of the Salinas River. Based on the presence of *Olivella* cup beads, Gibson assigned the site a date of ca. 1,000-500 B.P.

The next major excavation in the area was prompted by the planned construction of a shopping center on the eastern bank of the Salinas River in Paso Robles. The site, CA-SLO-993, was excavated in 1990 by Singer and Atwood who recovered bifaces, point fragments, flakes, and cores as well as numerous amounts of naturally-occurring Monterey and Franciscan chert cobbles. Singer and Atwood also identified a habitation locus at the site, as indicated by the presence of a midden, and several discrete activity areas including a quarry/workshop.

Throughout the late 1980s and early 1990s, a few other sites in the Paso Robles area were tested. CA-SLO-1199 near Atascadero (also known as the Las Encinas Site) was subjected to limited excavation (Gibson 1987). Faunal remains (shellfish, large and small mammals), lithic remains (debitage, cores, flake tools, bifaces, projectile points), and *Olivella* shell beads (Spire Ground, Wall Disk, and Rectangle) were recovered. Three radiocarbon assays on shell yielded uncorrected dates of 1560±45, 1275±45, and 800±50 B.P. Two other sites near Atascadero, CA-SLO-1331 and CA-SLO-1332, were investigated during this time. Both located along Paso Robles Creek, they were excavated in anticipation of a housing development project. CA-SLO-1331 consisted of a shallow midden deposit of bone and shell that contained a mortar, pestle, cores, debitage, and a hammerstone. CA-SLO-1332, the larger of the two sites, yielded fewer bone fragments but much more debitage. Although both sites lack clear component definitions, Gibson assigned a Late Period date to CA-SLO-1331 and contended that CA-SLO-1332 was considerably older, dating from 2,000 to 4,000 B.P.

Gibson also excavated CA-SLO-700, located near the town of Creston. He assigned the site to the Late and Protohistoric Periods. It contained a 1 m (3.3 feet) deep deposit that yielded shell and mammal remains, flakes, cores, cobble hammers, a mano, biface fragments, a projectile point, disc beads, and a possible house ring. The burnt fragment of a human cranium was also recovered.

Other sites in the vicinity of Paso Robles that were investigated during the 1990s include CA-SLO-586 and CA-SLO-1644. The former produced a small assemblage of tools, a fire-cracked rock feature, and three radiocarbon dates that placed occupation of the site during the Middle Period. The latter site also produced a small assemblage of tools and a large hearth feature that was radiocarbon-dated and yielded two dates ranging from ca. 2,700 to 4,200 B.P.

Recently, Farrell (2000) conducted a resources surface inventory of the Santa Ysabel Ranch near Paso Robles. Several prehistoric sites were identified, including three large habitation sites and several limited use locations. No radiometric assays were conducted for the identified sites, although Farrell (2000:44) suggested that initial human occupation in the area began ca. 3,000 to 1,000 B.P. Not long after Farrell's study, a large excavation project was initiated at the Santa Ysabel Ranch (Stevens et al. 2004). The work was carried out in order to determine the significance of sites likely to be impacted by a planned residential development. A total of 14 prehistoric and mixed prehistoric/historic sites were tested (CA-SLO-1492, CA-SLO-1920/H, CA-SLO-2076, CA-SLO-2077/H, CA-SLO-2078/H, CA-SLO-2079, CA-SLO-2080, CA-SLO- 2081, CA-SLO-2082, CA-SLO-2083, CA-SLO-2084, CA-SLO-2085, CA-SLO-2086/H, and CA-SLO-2087/H. Subsequent analyses of recovered artifacts and ecofacts revealed evidence for occupation of Santa Ysabel Ranch spanning over 8,000 years, from the early Holocene to the Protohistoric/Mission period. A great variety of material was recovered from the sites, including flaked and ground stone artifacts, a wealth of vertebrate and invertebrate faunal data, shell beads, and numerous Mission period items.

Perhaps the most noteworthy finding during the Santa Ysabel excavations was the early antiquity of CA-SLO-1920/H. The lower levels of this site produced four radiocarbon assays ranging from ca. 8,600 to 9,000 calibrated years B.P., making the site not only one of the oldest in San Luis Obispo County but also in central California. As Stevens et al. (2004:75) caution, however, "the overall level of bioturbation in the deposit makes it extremely difficult to separate out the early Holocene component from other later occupations that occurred at the site." Still, several artifacts recovered from the site (e.g. millingslabs and large side-notched projectile points) suggest affiliations with Millingstone Period assemblages elsewhere in San Luis Obispo County (such as Cross Creek and Diablo Canyon) and California.

Ethnographic Context

At the time of Euroamerican contact, a substantial Native American population inhabited the South Coast Range and surrounding areas. Two Native groups, the Obispeño Chumash and the Salinan, occupied northern San Luis Obispo and southern Monterey counties, though the actual boundaries between the two groups has recently come under dispute. Although the northern portion of Obispeño Chumash territory has traditionally been assumed to encompass Morro Bay, more recent evidence suggests that this boundary may have extended farther north near the current Monterey County line (Rivers and Farris in T. Jones et al. 1994:10). The modern descendants of the Salinan, however, have disputed this claim, contending that southern Monterey County was Salinan territory. Regardless of the exact boundary between the two groups, it is likely that this boundary changed through time. Recently, investigations of Mission records and extrapolation from these data have led to more informed speculation about group distribution and territorial boundaries (Milliken and Johnson 2003).

The Chumash

Territory and Language

Prehistorically, the San Luis Obispo, Santa Barbara, and Ventura regions were home to the maritime Chumash, considered one of the most complex hunter-gatherer societies on earth. They had economic and socio-political systems unusually complex relative to most ethnographically known hunter-gatherers. With populations living in settled villages, the Chumash reportedly had pronounced status differentiation and were organized into several simple chiefdoms, each one occupying a geographically defined area. These chiefdoms were united by a common culture and language, but were only loosely united politically, their alliances constantly shifting. Kroeber (1925:550) reports that the "Spanish were disposed to regard the Chumash as superior to the other tribes of California."

Kroeber (1925:551) placed the entire Chumash population at between 8,000 and 10,000 people. Later ethnohistorians considered Kroeber's assessment too low, and argued for higher numbers. Cook and Heizer (1965:21) estimated that the 1770 population of the mainland Channel area was between 18,000 and 22,000. Brown (1967), meanwhile, estimated that between 10,000 and 15,000 Chumash occupied the Santa Barbara Channel region at the time of European contact. Whatever the exact figure, the Chumash were certainly among the most numerous of any native group in ethnohistoric California.

Chumash territory encompassed the coastal stretches and inland valleys of what are now Ventura, Santa Barbara, and San Luis Obispo Counties, as well as parts of Los Angeles County. They also occupied the northern Channel Islands (i.e. Anacapa, Santa Cruz, Santa Rosa, and San Miguel). Several prominent villages were distributed throughout this range, including *Humaliwo* (Malibu), *Shisholop* (Ventura), *Syukhtun* (Santa Barbara), *Mishopshnow* (Carpinteria), and *Nipumu* (Nipomo). For many years, the Chumash language was considered part of the larger Hokan family of languages, but recent research (e.g. Campbell 1997; Golla 2007; Mithun 1999) suggests that Chumash may not

in fact be related to Hokan. This research suggests that Chumashan, as it is currently designated, is an isolate not related to any other aboriginal California tongue. Different Chumash communities spoke different dialects. It is on the basis of these dialects that the Chumash have been divided by ethnographers into five main linguistic groups: Barbareño, Ventureño, Ynezeño, Purisimeño, and Obispeño. The Barbareño and Ventureño occupied the narrow coastal plain from Point Conception to Punta Gorda in Ventura, with the former situated near present day Santa Barbara and the latter near Ventura. The Ynezeño occupied the middle and upper drainages of the Santa Ynez River, whereas the Purisimeño and Obispeño occupied the coastal zone on the north and west of Point Conception.

The Chumash occupying the northern San Luis Obispo region are known as the Obispeño, this designation being derived from the name of the nearest Spanish Mission, San Luis Obispo de Tolosa. (The community now often refers to itself as the Northern Chumash.) The Obispeño Chumash represent the northernmost subdivision of the larger Chumash cultural family, and spoke the most divergent of the five Chumash dialects. Kroeber (1925) reported that the Obispeño dialect may have been the oldest of the Chumash languages. Traditionally, the geographic territory of the Obispeño was thought to extend from the Santa Maria River in the south to Point Estero in the north (Kroeber 1925; Grant 1978). However, recent archaeological evidence and archival research of Spanish diaries and mission records suggest that the northern Obispeño territorial boundary may have extended north to San Carpoforo Creek, an area which has traditionally been regarded as Salinan territory (Gibson 1983; Breschini, Haversat, and Hampson 1983; Rivers and Farris in Jones et al. 1994:10). Gibson (1983) reports that there were 15 major Obispeño villages in San Luis Obispo County, each of which spoke their own sub-dialects.

Estimates of Obispeño population are much lower than those of more southern Chumash groups, such as the Barbareño and Ventureño. Kroeber (1925:551) noted that “From Point Concepcion north the coast is exposed to westerly winds, fog, and heavy surfs, and the inhabitants were noted by the Spaniards as less numerous and poorer than on the Channel of Santa Barbara.” Along the Santa Barbara Channel, for instance, villages averaged between 500 and 1,000 individuals with population densities exceeding 11 persons per square mile (Glassow 1991:2-5). By comparison, above Point Conception, population densities were no more than one or two persons per square mile, with villages rarely exceeding 100 individuals. However, Greenwood (1978) has noted that although there were fewer inhabitants north of the Santa Barbara Channel, there were more small villages and encampments (Greenwood 1978). Greenwood (1978) has also observed that the region may have once been populous, but was already declining by the time early Spanish overland expeditions started documenting their observations.

A Note on the Salinan-Chumash Boundary

The boundary between the broad Salinan and Chumash groups at the time of contact has been a point of scholarly and political debate for almost three decades. Some scholars have placed the northern extension of the Northern Chumash well into the southern Nacimiento River drainage, thus well into the present study area at Camp Roberts. Others have placed the boundary much farther to the south, as far south as Santa Margarita or even Cuesta Grade. (While it is true that there was interaction between these groups prior to contact with the Spanish, it is a misnomer to think of the boundaries between groups as fluid, undefined, or permeable. The Chumash and Salinan spoke dialects of very different languages and it is probably most realistic to assume that each group was keenly aware of the territory and resources under its control, and consequently did much to maintain that autonomy and control.)

The matter of reconstructing precontact boundaries is complicated by the chain of disruptive and often devastating historical events set off by the Spanish settlement of the region, in particular the establishment of the missions in what are now San Miguel, in the north, and San Luis Obispo in the

south. The Spanish requited (or forcibly conscripted) the Chumash and Salinan first from nearby villages, and later from more distant settlements, to build the missions, and develop and later maintain the large agricultural enterprises that were the economic basis of the mission system. While mission rolls were by and large filled from a single group, some degree of mixing did occur in mission populations, particularly as original recruits (or "neophytes" as the baptized were called) succumbed to disease and work, as was certainly the case at Mission San Miguel.

Records of baptisms, marriages, and deaths kept by the Franciscan fathers are the primary data on the origin of the mission populations. The fathers recorded, with varying degrees of accuracy, villages of origin and native names, from which scholars have attempted to work backwards to establish the traditional geography of the groups. These data, which are certainly open to a range of interpretations, taken with other information such as place names from more recent respondents, places identified in tales and myths have resulted in tentative or uncertain assignments of tribal boundaries.

The most recent and comprehensive attempt to address the boundary question (among other important ethnogeographic and ethnohistoric matters) was completed by Milliken and Johnson (2003) as part of a Caltrans funded resource management project. Milliken and Johnson employed population models to fit Mission record data to the most likely pattern of precontact habitation in the region. They conclude that it is probable that the Northern Chumash traditionally occupied the territory north to include the present day communities of Atascadero, Templeton, Paso Robles, most likely terminating in the San Marcos Creek region (just to the south of Camp Roberts). They also include that the Santa Margarita region was the location of a number of Northern Chumash villages. They therefore also conclude the southern portion of the Nacimiento drainage (on present day Camp Roberts) is within the traditional territory of the Salinan. The Chumash inhabitants of the area were removed to Mission San Luis Obispo to the south, while the Salinan were taken to Mission San Antonio (now within Fort Hunter Liggett) or to Mission San Miguel.

The discussion regarding this boundary will remain active if not heated. Many families have their own traditions regarding traditional homelands, adding information to the debate. Also, the revitalization of the Chumash and Salinan tribes as social, political and in some cases activist communities makes the understanding of traditional territory a salient one for a number of reasons. It is for these reasons that the present project has elected to include Native American monitors from both groups, Salinan representatives for work at the sites in the lower Nacimiento drainage, and Chumash in the Paso Robles, Atascadero, and Santa Margarita areas.

Subsistence and Material Culture

Unlike their more southerly neighbors, who inhabited the sheltered waters of the highly productive Santa Barbara Channel, the Obispeño did not rely on marine resources for a majority of their sustenance. They occupied an environment that was exposed to prevailing westerly winds and heavy surf. It was a rugged region characterized by narrow coastal terraces with occasional sand dunes, small valleys, and a rocky outer shore swept by winds and fog (Greenwood 1978). The resources of the area included a mix of terrestrial and marine plants and animals. Based on ethnohistoric sources, Farris (1986) and Gibson (1983) asserted that the Obispeño maintained a more generalized hunting and gathering economy. They followed a seasonal round of resource availability, traveling in regular patterns, establishing summer and winter camps in customary places with reliable water supplies. Gibson (1983) has provided a summary of this seasonal round. During the winter, the Obispeño gathered a variety of plant foods including greens, roots, tubers, and corms. Seed gathering became important during the spring when such resources as red maids, chia, and various grasses became available. The focus shifted to berries and other seeds during the summer, whereas the fall was a time when nut crops such as acorns, pine nuts, buckeye, and toyon were gathered. Land mammals were hunted throughout the year, varying in importance by season and location.

Vegetal resources played a major role in the Obispeño diet. Although they consumed a variety of different plant foods, most references to ethnographic subsistence practices indicate that they relied on the acorn as a staple food (Landberg 1965; Glassow and Wilcoxon 1988; Timbrook 1984). The preferred acorns came from coast live oak (*Quercus agrifolia*) and valley oak (*Quercus lobata*), although they exploited other varieties on occasion. Readying the acorns for consumption was an involved process. Acorns were usually collected in fall and ground into flour using stone pestles in either portable stone or bedrock mortars. The flour was then leached in freshwater streams to remove the tannic acid. Acorns were consumed during winter as mush or cakes. In addition to acorns, other important plant resources included nuts, seeds, berries, tubers, roots, and various greens.

Various terrestrial animals were also important to Obispeño subsistence. Large terrestrial game mammals such as deer, pronghorn antelope, and tule elk (Landberg 1965:49; Baumhoff 1963) were key sources of protein. Deer were the most important of these resources. In order to facilitate the hunting of deer, the Obispeño periodically practiced controlled burning of chaparral-bearing grasslands and woodlands. These fires cleared lands of dense vegetation cover and increased the productivity of grasses and stimulated regrowth of tender shoots that attracted browsing deer. The animals were usually stalked by individual hunters or small groups of hunters and dispatched with bows and arrows. Rabbits were also taken. These were hunted in large, communal drives and snared in nets, where they were summarily clubbed to death. Other small game taken included squirrel, ground squirrel, woodrat, and even mouse and mole (Landberg 1965:54). Insects such as caterpillars and grasshoppers were also collected and eaten.

In addition to terrestrial plants and animals, the Obispeño exploited resources from the diverse coastal habitats (rocky shore, sandy beach, and estuary) north of Point Conception. Although the characteristic Chumash plank canoe, called the *tomol*, was apparently not employed in the rough waters north of Point Conception (Glassow 1996:17), smaller balsa rafts and dugouts were used. Littoral and pelagic fish were routinely taken, the former from shore and the latter from watercraft. In comparison to southern Chumash groups, however, fishing was a relatively unimportant subsistence pursuit. In addition, sea lions, seals, and sea otters were hunted, generally by clubbing them on the beaches (Baumhoff 1963:17). The meat of beached whales was also consumed after being roasted in earth ovens.

Shellmounds attest to the importance of shellfish in the Obispeño diet, particularly for coastal populations. Indeed, there are many references to shellfish collection and consumption in the diaries of Spanish explorers, indicating that this resource was of significance to contact-period diets. Shellfish resources of primary importance included mussels (*Mytilus* sp.), abalone, (*Haliotis* sp.), and various clam, oyster, and scallop species. Mussels, clams, and other species were probably collected year-round but primarily during winter, being taken by hand or with prying bars or sticks. Clams were dug from beds within tidal flats, and a variety of riverine fish (salmon, sturgeon, steelhead, and a variety of other species native to California waters) were captured with spears or nets (Harrington 1942).

The day-to-day implements of the Obispeño – their material culture – were rather sophisticated in comparison to other native groups of California. In fact, early Spanish explorers were duly impressed by Chumash craftsmanship. Implements were made of stone, shell, wood, and bone and fashioned by hand, and, in general, were characterized by simplicity and ease of transport. A multiplicity of stone implements were fashioned and used for a variety of purposes. Plant foods were processed using stone mortars and pestles while seeds and other plant foods were rendered edible using millingstones and handstones. Hunting implements included sinew-backed bows and arrows as well as spears and throwing sticks. Finely crafted projectile points, made of chert and occasionally obsidian, were also made. These were generally triangular in shape and contained a notched base. A numerous variety of

traps were also employed. Chumash basketry was especially sophisticated and elaborate. The Chumash also made elaborately curved fishhooks from abalone and mussel shell. Steatite, which was available from local quarries as well as quarries on Santa Catalina Island, was used by the Obispeño to fashion both utilitarian and ceremonial objects, the latter including elaborate pendants and effigies. Asphaltum, which occurred naturally in Chumash territory, was an indispensable material for the Chumash. It was used for all manner of purposes: to caulk their canoes, as sealant for water baskets, and as fastening for spears and arrows.

Obispeño dwellings were dome-shaped and usually twelve to twenty feet in diameter, though chiefs' houses were much larger. The frame of the house consisted of willow poles that were bent toward the center to form a dome shape and then lashed together at the top. Smaller saplings were attached to these poles to form a latticework structure. This frame was then thatched with tule branches or cattails, which were gathered in marshy areas. The thatching was draped over the horizontal crosspieces and tied down securely. House builders worked from the ground up. By starting at the bottom and working toward the top, each layer fell over the one below, acting as layered insulation and keeping the rain out. At the top of the house a hole was left open for ventilation. Each house had a fire pit in the center for heat and for cooking.

It is believed by numerous ethnographers that the Chumash had an essentially monetized market economy. A form of currency based on shell beads was widely used, and had a standardized rate of exchange. The Chumash appear to have been the primary source of this currency for the southern half of the state. Shell beads could purchase food, manufactured items, and some services (Blackburn 1975; C. King 1981).

Society

The sociopolitical organization of the Obispeño and that of the Northern Chumash (such as the Purisimeño) in general is believed to be less elaborate than that of their more southerly compatriots. In the south, several researchers (Johnson 1988; Martz 1992; Arnold 1992; Colten 1993) have argued that the channel Chumash were organized into a simple chiefdom level of social organization. Chumash society was stratified, consisting minimally of elite and commoner families. Members of the elite class held all the important political and religious positions such as canoe owners, craft specialists, and members of the *'antap* cult. Commoners were mainly hunters, gatherers, and fishermen. Each channel village was headed by at least one headman or chief, called a *wot*, who inherited his position and could collect tribute and organize socioeconomic activities. Some *wots* appeared to have influence over several villages or whole districts, implying a regional, hierarchical system. The *wot*'s power extended through marriage ties and trade to networks of smaller villages on the coast and in the interior. Although *wots* were normally men, women sometimes served in the position.

For the Chumash inhabitants north of Point Conception, however, sociopolitical organization was much less structured and hierarchical. Glassow (1996) has characterized these groups, especially the neighbors of the Obispeño, the Purisimeño, as having greater fluidity in political organization. He has argued that, in fact, it is possible that Purisimeño political organization was more of a "big man" type, in which political leadership shifted between individuals relatively frequently, depending on one's fortunes at the moment. He has also argued that status differentiation similar to that among the southern Chumash apparently existed but was not as structured (Glassow 1996:17). Glassow attributed these differences, in part, to the "Purisimeños, not depending on the plank canoe, which required the expenditure of a good deal of wealth to construct, and perhaps also to their more dispersed and more mobile settlement pattern." (Glassow 1996:18). It is quite possible that Obispeño political and social organization was very similar to the Purisimeño, and for the same reasons. Like

the Purisimeño, the Obispeño did not own the plank canoe and had a more dispersed settlement pattern.

Ethnohistory

The first European voyager to encounter the region's indigenous inhabitants was Sebastian Cermeño who put in at Port San Luis in 1595 (Krieger 1988). Although his stay was brief, he described the Indians of the region as naked, bearded, and painted with stripes on their faces and arms (Wagner 1929:161). Over one hundred and seventy years passed before the next major European expedition reached the San Luis Obispo region. In 1769, Captain Don Gaspar de Portolá and Father Junipero Serra led the first overland journey through Alta California in order to locate suitable sites for settlements and missions. With a contingent of soldiers, priests, and Christianized Indians they reached the San Luis Obispo area in September 1769. In the area north of what is now Pismo Beach, they encountered a "small and wretched" Indian village. Miguel Costansó, one of the expedition's chroniclers, recorded the event:

> The Indians of this village, which was only a short distance from our quarters, came in the afternoon to visit us; they brought presents of seeds and some fish, and offered them to us. Their cacique had a large deformity, consisting of a tumor that hung from his neck. The soldiers, when they saw it, gave him the nickname of Buchon, and this name likewise stuck to his village and to the entire place (Costansó 1992:61).

A few days later they made camp in Los Osos Valley (Miller 1988), which they described as abundant with grizzly bears. From there, they reached the mouth of Morro Bay, and sighted Morro Rock, still the area's most prominent natural landmark. Near the area was an indigenous encampment, which Costansó again recorded:

> Not far from our quarters there was a small and miserable Indian village with hardly sixty souls. They lived in the open, without house or hearth. They came to visit us, and offered us a kind of *pinole* made of roasted seeds, which tasted good to all of us and had the flavor of almonds (Costansó 1992:65).

In 1772, Father Serra established mission San Luis Obispo de Tolosa, the first of five Franciscan missions built in Chumash territory. Initially, it was constructed of palisades and tule but soon replaced with adobe walls and tile roofs. Numerous buildings including storerooms, hospital, residential dwellings, and workrooms were gradually added until 1819 when the mission was officially completed. It became one of the wealthiest Spanish missions in California; its holdings included thousands of head of cattle and sheep, and large agricultural holdings. Its neophyte population reached a peak in 1805 with 961 in residence. The majority of its neophytes came from Obispeño villages at Morro Bay and Arroyo Grande.

As the Spanish presence in California grew and the missions gradually established greater sway over native peoples, traditional Obispeño lifeways were drastically altered. At the missions, the Chumash were trained in European culture and traditions and their own political leadership was replaced with complete control by the mission padres. The native hunting, gathering, and fishing economy gave way to mission agriculture and animal husbandry. Rectangular adobe houses replaced dome-shaped tule houses. The near absence of clothing favored by the Chumash was superceded by woolen garments woven in mission workshops. Once indoctrinated into the Catholic faith, the Chumash attended daily Mass, where prayers were recited in both their native tongue and in Spanish. By the early 1800s, the entire Chumash population, except for those who actively resisted conversion, had been incorporated into the mission system.

In 1834, under the new Mexican government, secularization of the mission lands began in earnest. The indigenous population scattered away from the mission centers, and the few that were given rancherias from the mission lands were ill-equipped to maintain or work their land. Most of the former mission land was divided among loyal Mexican subjects, and the few Obispeño who chose to remain in their ancestral territory were obligated to become squatters. Some were given jobs as manual laborers or domestic servants on Mexican, or later American, cattle ranches. Others remained near the pueblo, where work was easier to find as foreign settlers began to pour into the region. By this time, Chumash population had suffered a serious decline. Introduced European diseases such as smallpox and syphilis took a heavy toll and, by the early 20th Century, there were few Chumash left (Grant 1978:507).

The Salinan

Territory and Language

At the time of historic contact, Salinan-speaking peoples occupied a territory in central California encompassing much of the Santa Lucia and Diablo Ranges, as well as the headwaters of the Salinas River. They were bordered to the north by the Esselen and the Costanoan, to the east by the Yokuts, and to the south by the Chumash. Altogether, this area covered approximately 7,800 km^2 (3,000 mi^2), and was characterized by steep mountains, deep canyons, and rugged, windswept coastline. Although the precise boundaries of Salinan territory have never adequately been delineated, some authors (e.g. Mason 1912:102; Hester 1978) have suggested that it extended from approximately the modern town of Lucia on the coast inland through Junipero Serra Peak in a northeasterly direction to roughly just south of Soledad. From there, it probably followed the edge of the Coast Range southward above the lower San Joaquin Valley to a point about even with the headwaters of the Salinas River from which it followed a northwesterly course back to the sea just above San Luis Obispo. More recent research by Gibson (1982) has placed the southern boundary of Salinan territory just north of Ragged Point.

The Salinan language has been classified as a member of the California branch of the Hokan language family (Hester 1978), one of the oldest languages in California. It is related to Esselen, though the speakers of these two languages would have been mutually unintelligible. Early Spanish mission padres suggested that the Salinans spoke three dialects: a Playaño dialect spoken on the coast, another in the vicinity of Mission San Antonio (Antoniaño), and a third in the area of the Mission San Miguel (Migueliño). Subsequent linguistic analyses (Mason 1918; Turner 1987) have confirmed only the latter two, and Gibson (1983:106) has suggested that the coastal dialect reported by the Spanish was more likely a local variant of Northern Chumash (but see Campbell 1997; Golla 2007; Mithun 1999). The early ethnographer Latham (1856) coined the term "Salinan," though it is currently not known what they actually called themselves. Milliken and Johnson (2003) have recently questioned Gibson's 1983 attribution of Playaño to the Chumash, but left open the question of the actual linguistic affiliation of the region.

Based on mission baptismal records, Kroeber (1925:547) originally placed Salinan population between 2,000 and 3,000 individuals, though he emphasized the lower figure. Later ethnographers (e.g. Cook 1976:187; Baumhoff 1963) suggested that the total Salinan population was slightly higher, standing at a little over 3,000, with an overall density averaging 1-2 persons per square mile. According to C.H. Merriam, there were 21 villages in Salinan territory, most of which were located inland along rivers and creeks. Although there were occupation sites along the coast, these were apparently not permanently occupied but featured as short-term hunting and foraging camps.

Subsistence and Material Culture

Like their Obispeño neighbors, the Salinans were hunter-gatherers who subsisted on a variety of different plants and animals. They had a very broad subsistence base that was based primarily on the

procurement of locally available resources with a moderate to minimal amount of trade in exotic foodstuff. Kroeber (1925:547) characterized them as "omnivorous," and suggested that "every obtainable variety of fish, reptiles, birds, and mammals, with the single exception of skunk, and possibly the dog and coyote, was eaten." As was the case with so many aboriginal groups in prehistoric California, the Salinans used a great variety of plant foods. By far the most important was the acorn (Mason 1912:117), which was obtained from six different oak species. Acorn collecting, which was a fall activity, usually involved the participation of an entire community or village – men, women, and children. Acorns were obtained in a manner very similar to the way other California groups gathered the resource. Small groups went out to especially productive oak groves and gathered the acorns with poles and baskets. These were then stored in large basket-like granaries made of white willow twigs that were covered with grass. Readying the acorns for consumption required pounding the acorn into a fine powder and leaching it; the flour was then made into mush or baked.

In addition to acorns, pinenuts were nearly as important to the Salinan diet. These were harvested in late summer at various locations in the Coast Ranges. In 1769, during the Portolá expedition, the Spanish observed a large aggregation of Salinans collecting pinenuts at a place that was subsequently named *Campo de los Piñones*. Other plant foods included wild oats, sage seeds, berries, mescal, and wild fruits.

Although plants and seeds provided the majority of the Salinan day-to-day subsistence needs, animals were important and were hunted on an opportunistic basis. The ethnographer J. Alden Mason (1912), who authored the most definitive study of Salinan culture, mentioned that smaller animals – such as squirrels, rats, mice, rabbits, foxes, and bobcats – were more important than larger animals. Large, communal rabbit hunts were conducted and included the participation of men, women, and children. The meat from these animals was roasted, baked or dried. On occasion, however, large mammals, such as bear and deer, were hunted (Hester 1978:501). Concerning deer hunting, Mason wrote:

> Deer were generally hunted by stalking, a method which obtained among almost all of the California natives. The hunter covered his head with a stuffed deer head and cautiously approached the deer under the cover of the brush. The direction of the wind was ascertained by dropping a little dirt, and the deer were approached from the leeward side. A good hunter could imitate the movements of the deer so accurately that he could approach quite close and kill several before the animals suspected any danger. The careful hunter always chewed tobacco assiduously while approaching the game, as this tended to make it drunk and less wary (Mason 1912:124).

Jones (1995, 2000) suggests that coastal Salinan groups, unlike the coastal populations of the Santa Barbara Channel, do not seem to have been marine focused. Rather, like their inland Salinan neighbors, their principal foods were terrestrial animals and plants. Indeed, from his study of the Big Sur coast, Jones argues that dietary estimates based on faunal remains from coastal Salinan sites indicate an emphasis on terrestrial mammals, with very little fishing or collection of shellfish. He concludes that:

> The archaeological record supports the notion that settlement and subsistence between A.D. 1250 and historic contact included marine foods but was focused on terrestrial taxa, exploited from inland sites….This contrasts markedly with the Chumash of the Santa Barbara Channel, who were decidedly marine focused during the Late Period (Jones 2000:18).

Nonetheless, coastal resources did feature in the Salinan diet. These included marine and littoral fishes, marine mammals (such as seals and sea lions), and a variety of shellfish. Fishing, which was an exclusively male task, was accomplished through the use of hook and line, nets, or barbed spears.

Marine mammals were hunted along the shore, where they were stalked, surrounded, herded away from the water, and dispatched with clubs or spears. They were also hunted from rafts. Shellfish were gathered from rocky shores, bays, and inlets; both men and women participated in collecting these resources.

By all accounts, the day-to-day implements of the Salinans were much less sophisticated in comparison to the Chumash. The Salinans used bone, stone, wood, and shell but generally lacked large quantities of the other resources and materials used by the Chumash, such as steatite, whale bone, and asphaltum. The Salinans also lacked the elaborate pendants, effigies, and artwork characteristic of the Chumash. They did, however, produce a variety of well-made utilitarian items. Local chert sources provided the raw material for projectile points, bifaces, cores, and hafted knives. Groundstone artifacts included bowl mortars, pestles, metates, stone bowls, and arrowshaft straighteners. Bone awls and C-shaped shell fishhooks as well as wooden-hafted stone knives were also made. Basketry was manufactured from locally occurring plants, such as white willow, tule, bunchgrasses, and fern, and included a variety of shapes and sizes.

Salinan dwellings were dome-shaped and approximately 10 feet square. Like Obispeño dwellings, they were constructed with a pole framework over which tule or rye grass was placed. A smoke hole was left near the center of the roof and a fire was built in the center of the structure. They could house an entire family and were manufactured to withstand the elements. Semisubterranean sweathouses were also built; these were small and hemispherical and consisted of an excavation approximately four feet in diameter and six inches deep. Occasionally larger sweathouses were built and used for ceremonial purposes.

Society

Little is known about the particulars of Salinan society and political organization. Kroeber (1925:547), in his brief study, made scant mention of Salinan social organization, beyond noting that they lived in small, scattered villages. Later ethnographers (e.g. Mason 1912; Harrington 1942; Hester 1978) provided more detail, but a comprehensive understanding of Salinan social organization and political institutions is still shrouded in mystery. According to Hester (1978:502-503), the Salinans were organized into what Kroeber (1955) termed the "tribelet," which was composed of several autonomous villages made up of several related families. Each village was presided over by a chief whose authority was hereditary but whose power was limited. The chief was head of a clan, whose descent was determined patrilineally. Evidence of a Deer/Bear moiety was provided by Harrington (1942), who also suggested that local endogamy prevailed.

The basic socioeconomic unit in Salinan society was the family, which was comprised of a married couple, their immediate offspring, and probably some close relatives. These families lived in one or more houses and were transhumant, roaming a specified territory, moving over the landscape in accord with the availability of resources. There is, however, very little information on the Salinan seasonal round, though it is likely that acorn gathering and storage was a primary part of the seasonal round. A generalized division of labor prevailed, with women gathering and cooking, and men hunting, fishing, and performing maintenance tasks.

Ethnohistory

The first substantial contact between Europeans and the Salinans occurred in 1769, when Portolá and his party passed through the Santa Lucia Mountains on their way to San Francisco Bay. In late September of that year, they encountered a small band of Indians engaged in collecting pine nuts. Miguel Costansó, one of the expedition's main chroniclers, called the natives "wandering people without either house or home." A few days later, they came upon a village, which Costansó described as "very poor" and its inhabitants as "friendly and obsequious." Finally, on the 26th of September,

they encountered another, larger band of Indians who were also engaged in pine nut collecting. Costansó wrote:

At the foot of the slope was a band of wandering Indians, which must have numbered more than two hundred souls. They had no houses, and lived in the open near a fallen oak tree. For this reason the place was named *Rancheriá del Palo Caido*. These natives offered us a quantity of pine nuts and seeds. We remained a short time among them, and then passed on in order to make camp on the bank of a river… (Costansó 1992:81).

Portolá's expedition, though at the time producing little lasting and substantive contact, was a harbinger of later developments. As a direct result of the expedition, the Spanish established a system of fully functioning Franciscan missions over the length of Alta California, from San Diego to the northern San Francisco Bay. These missions relied heavily on native labor and recruited, through both coercion and persuasion, native workers and converts. In time, a large population of native converts, called "neophytes," came to live on the mission grounds. Their lives were highly regimented and structured by the mission padres, and they were not permitted to resume their aboriginal lifeways.

The Spanish established two Franciscan missions in Salinan territory. Father Junipero Serra founded the first of these, Mission San Antonio de Padua, in July 1771. It was located near the confluence of the San Miguel and San Antonio Rivers, and was reported to have been situated near a large Salinan village. Since its founding, the mission grew slowly but steadily. In addition to the church and a huge quadrangle, there was a grist mill and an extensive irrigation system. In 1774, there were 178 Indians living at the mission. The years between 1801 and 1805 were its most prosperous. There were about 1,296 Indians working there and they had a weavery, wool spinning facility, a tannery, a carpenter shop, a stable and a harness shop.

A second Franciscan mission, Mission San Miguel Arcángel, was established in 1797 in the southern reaches of the Salinas Valley very near the present-day site of Camp Roberts. The site was chosen for its abundant water and its location near a large Salinan village reputedly known as "Cholam" or "Cholami." Father Buenaventura Sitjar, the mission's first administrator, presided over the founding ceremony and was reported to have baptized 25 children. By the end of its first year, the mission quadrangle and a few surrounding buildings were built. The mission grew rapidly in the years following its inception; by 1803, there were over 1,000 neophytes who worked as carpenters, blacksmiths, weavers, leather workers, ranch hands, and vintners. The mission grew quite prosperous despite the poor soil of the area and the excessively hot climate. By 1805, there were several adobe houses and nearly fifty Indian domiciles.

Despite the relatively easy adaptation of the Salinans to mission life (Hester 1978:503), the mission existence took a devastating toll on the region's native inhabitants. As a result of introduced European diseases, large numbers of Salinans died. By 1831, there were a reported 700 Salinans left. Population decreased even more rapidly after secularization of the missions in 1834 – from 350 Salinans at San Miguel in 1840 to only 30 in 1842. A similar decline occurred at San Antonio; in 1842, there were 150 Salinans but by the 1880s there was an estimated population of 12. Thus by the time ethnographers like Kroeber (1925), Mason (1912), and Harrington (1942) began their systematic studies of Salinan culture during the early twentieth century, there were few Salinans left.

Historic Context

In 1821, Mexico achieved her independence from Spain, and word of this event reached Alta California the following year. The colonial policies of the republic were to be quite different from those of the Spanish monarchy. Not only were Californians allowed to trade with foreigners, but

foreigners could also now hold land in the province once they had been naturalized and converted to Catholicism. Under Spain, land grants to individuals were few in number, and title to these lands remained in the hands of the crown. Under Mexican rule, however, governors were encouraged to make more grants for individual ranchos, and these grants were to be outright. Most importantly, the new Mexican republic was determined to move to "secularize" the missions, to remove the natives and the mission property from the control of the Franciscan missionaries.

Secularization was set in motion by the Mexican Governor Echeandia in 1826, but was not carried out in earnest until 1834 when Governor José Figueroa issued an official proclamation ordering the secularization of the California missions. His proclamation turned the mission properties over to Mexican civil authorities, allowed for the dispersement of mission property, opened mission land for settlement by petitioners, and created a series of pueblos. Indian neophytes were freed from their role as personal servants to the padres; however, in reality, the effects of secularization throughout California were to deprive a large percentage of the remaining mission Indians of their property. This resulted in the creation of a relatively large population of landless Indian tenants, many of whom sought work in the newly created rancherias.

Missions San Miguel Arcángel and San Antonio de Padua both fell into disrepair after secularization. The San Miguel Mission was the last to be secularized, and the civil government took it over on July 14, 1836. Three years later, most of the natives had run away, and Father Moreno, who had been appointed to oversee the effects of secularization, found the buildings in such bad condition that he had to go somewhere else. Father Abella, the last Franciscan left, died in 1841. In 1846, Governor Pio Pico sold the land and buildings to Petronillo Rios and William Reed for $600. Reed used it as his home, and had a store there. After the California Gold Rush, it became a stopping place for miners traveling from Los Angeles to San Francisco, and it was used for a saloon, which was one of the most popular along the El Camino Real, and as a dance hall. San Antonio de Padua suffered a similar fate. It was badly plundered after its secularization in 1834, and the Indian neophytes could not care for it by themselves and their population dwindled to only 140 in 1841. In 1845, the property was valued at 8,269 reales, but by 1846 its value had declined to 35 reales and no one wanted to buy it, so the Mexican governor sent a Mexican priest, Father Ambris, to take care of it. He tried to renovate the buildings, but when he died in 1882, the structures were left to the elements. The mission was completely abandoned for almost the next 50 years.

The new ranchos that sprang up as a result of secularization created a wholly new culture in California, one that was centered on the raising and maintaining of vast herds of cattle. These ranchos were usually owned by individual families who supervised a veritable army of Indian laborers and *vaqueros*. The ranch owners owed their livelihood to the sale and trade of the products, primarily hide and tallow, derived from their cattle. A flourishing trade with foreign merchants, mostly Americans, kept the Mexican ranchos afloat; hides and tallow were traded to American merchants for everything from food staples and clothing to furniture and luxury goods.

The area surrounding the project area was once part of Rancho Santa Ysabel, Rancho. A history of the Rancho is detailed in and Stevens et al. (2004).

FIELD METHODS

Albion staff archaeologists Monte Kim and Leslie Fryman conducted the built environment survey on April 18, 2008. The sole resource noted, a Frame Vernacular-style barn, was recorded using a

Department of Parks and Recreation (DPR) Building, Structure and Object form. An associated historic artifact scatter was recorded using a DPR Archaeological Record (Appendix A).

Pedestrian survey of the project alignment for archaeological resources occurred on April 22 and April 25, 2008 (Figure 3). The investigation entailed intensive survey (10 m-wide transects) of the entire 13 acre water treatment site, with all cultural materials mapped using GPS. Investigation of the previously surveyed pipe alignment was more cursory in nature, employing a single zigzag transect of the pipe corridor. Within site contexts, only formal or functionally/temporally diagnostic artifacts were recorded using GPS. No cultural materials were collected.

The geoarchaeological assessment of the project vicinity was conducted by Kate Ballantyne on April 22, 2008. The investigation included a cursory windshield and pedestrian survey along the project alignment (Appendix B). During this effort, sidewalls of an erosional gully and a small ephemeral stream were examined to look for buried soils. Field investigations were conducted according to the National Cooperative Soil Survey Standards, following the methods in the Soil Survey Manual (Soil Survey Staff 1993).

Visibility of soil surfaces throughout the subject property was generally poor, with the all of the parcel under either under cultivation or covered by weeds (Photograph 2). Exposed soil surfaces were found between the rows in the fields, the service roads, and the uncultivated western section of the alignment. The water treatment parcel appeared highly disturbed; it appears to have been graded and covered with a light brown imported soil/fill containing gravels and asphalt chunks. Other modern trash includes bottle glass, a golf ball, brick, and PVC pipe, barbed wires, styrofoam. Other disturbances include chain link fence enclosed power-house structures, and an underground vault. Several power poles line the western boundary. Burrowing animals have also impacted the parcel.

The pipeline area north of the water treatment site has been plowed repeatedly over the years. Disturbances along the northeastern portion of the Project area (along unimproved Charolais Road), include previous road grading and installment of underground utilities.

Photograph 2. Ground visibility at WTP parcel.

Results of the built environment survey, archaeological survey, and the geoarchaeological assessment are contained in the following sections.

Figure 3. Survey areas.

STUDY FINDINGS AND RECOMMENDATIONS

Built Environment Resources

A Frame Vernacular-style barn is located in a recently-plowed field on the west side of the Salinas River, 108 feet east of the tracks originally built by the Southern Pacific Railroad (Photograph 3). It is two stories in height, 58 feet in length, and 46 feet in width. It has a rectangular plan, a moderate-pitched gable roof clad with corrugated metal, and a wood frame structural system. The foundation includes both a 6 inch-wide, continuous concrete perimeter foundation, as well as an interior foundation consisting of narrow rows of continuous concrete that run the length of the barn. The exterior wall fabric consists of 12 inch-wide, unpainted, vertical wood planks. There are three wooden doors on the north elevation. Attached to the south elevation is a single-story, frame storage room (used for feed) measuring 31.25 feet in length and 14.5 feet in width. The storage room has a shed roof clad with corrugated metal. The south elevation also features a rectangular-shaped, gable-end ventilator.

Photograph 3. Frame Vernacular-style barn (view northeast).

The floor plan suggests that the building is a variant of a type of barn known as the transverse crib or transverse frame barn. Typical of this type of barn is the large central bay flanked by a pair narrower, symmetrical side bays. Unlike a classic tranverse crib barn, however, this particular barn lacks the row of cribs or stalls in the side bays that are typically arranged perpendicular to the large central bay. Many traverse crib barns were used as dairy barns, but this barn was used primarily as a cattle–feeding barn, as suggested by the two long feeding troughs that run parallel to the central bay. There is also a large second-story hay mow that fills much of the central bay. Access to the mow is provided by a 55 inch-wide plank ramp at the north end of the barn. There is evidence that the central bay at the north elevation where the ramp begins was enclosed at one time.

The barn does not appear to have incurred any major alterations since its construction. The vertical plank siding is original and the corrugated metal roof may also be original. The barn, however, is

presently in ruinous condition. Large sections of the plank siding are missing and the corrugated metal roof on the south elevation storage room has collapsed.

Southwest of the barn is a sparse scatter of household artifacts observed in a freshly plowed field (Appendix A). The scatter consists of approximately 15 fragments of bottle/jar glass, 4-5 ceramic shards, 3-4 fragments of milled wood and 1 wire nail. Glass fragments include one amethyst (solarized) piece, one threaded brown bottle top (large mouth, possibly medicine or chemical bottle), and several clear bottles, possible canning jar glass. Ceramic fragments are all white improved earthenware, no patterns or basemarks were noted.

As a distinctive type, the Transverse Crib barn features a rectangular floor plan with interior structural divisions consisting of an open central bay flanked by a pair of transverse side aisles with cattle cribs or pens. Crib barns were originally built in the hill country of Appalachia, as well as the northern Great Lakes area. They are linked to a number of European ethnic groups, including the Germans, Finnish, Scotch-Irish, and English.

After 1900, however, ethnicity and cultural background may have played less of a role in the spread and evolvement of crib barns, as more efficient designs were developed and the availability of cost-effective building materials such as corrugated-metal roofing became much more widespread (Eastman 2002:18). The agricultural press, which promoted the use of efficient, standardized designs, also contributed to the development of modern variants of the Transverse Crib barn, especially in the far west where it became the most popular type of barn constructed during the early decades of the twentieth century (Vlach 2003:357).

The Transverse Crib barns found in California are typically of frame construction and have gable roofs. Many of these barns were built as dairy barns. Others, such as the one in the project area, were constructed to feed cattle and have a large second-story mow to store hay and grain. The floor in these feeding barns were commonly earthen, so as to allow the straw and manure to accumulate (Radford 1908:28).

As with some Transverse Crib plans, the Transverse Frame barn in the project area has a central bay with two outer transverse aisles. The circulation pattern is also similar in that cattle entered the barn through doors or openings near the corners at the gable ends and traveled down one of the side aisles, positioning themselves perpendicular to the long feeding troughs that ran the length of the building. Unlike the traditional Traverse Crib barn, the project barn lacks the perpendicular partitioning created by the pen walls. Consequently, the side aisles and the feeding area are merged into a long rectangular space adjacent to the central bay. Another feature found commonly in Transverse Frame barns in California is a storage shed with a dropped pent roof attached to the gable end of the barn (Thollander 1974: [5]). The project barn has a one-story, rectangular-plan frame shed along its south elevation. The shed was most likely used to store grain for livestock.

The project barn does not appear to be eligible for listing in the National Register of Historic Places due to its lack of historical significance and integrity. It lacks association with significant periods of agricultural and ranching development in the Paso Robles area to be significant under Criterion A, and it is not associated with any person(s) significant in history under Criterion B. The project barn also lacks sufficient design distinction to be significant under Criterion C, and it lacks the potential to contribute further information of historical importance under Criterion D.

Recommendations: Built Environment

The subject barn does not appear to meet any of the criteria for listing in the National Register of Historic Places. No further action is required regarding the barn, however, monitoring during project construction is recommended to ensure potentially significant features (i.e. trash pits, foundations for other buildings) are treated in accordance with CEQA guidelines.

Archaeological Resources

Visual inspection of the project area revealed a sparse to moderately dense accumulation of prehistoric artifacts from the north boundary of the 13-acre water treatment site along the proposed pipe alignment, for approximately 1500 meters. Materials included flaked and groundstone tools, marine shell and mammal bone. The artifact scatter confirms the location of the recorded archaeological sites CA-SLO-1894, CA-SLO-1895, and CA-SLO-1896. An accumulation of martial between the recoded site boundaries suggest a continuous deposit, rather than three discreet site locations. Figure 3 depicts locations of formal artifacts observed during the inspection. Flaked stone debitage and other non-diagnostic debris was not mapped; additional artifacts and ecofacts are likely located below the surface of the plowed field.

In addition, three isolated prehistoric artifacts (two groundstone fragments and one piece of flaked stone debitage) were observed in the 13-acre water treatment parcel. While no associated midden soils were observed, the parcel appears to have a substantial cover of imported fill. The relationship between these materials and site CA-SLO-1896 to the north is unknown.

Two additional isolated artifacts (handstone fragments) were observed along the pipe alignment that travels west from Charolais Road. No other associated materials or midden soils were noted in this disturbed context (unimproved roadbed). Origins of these materials is unknown, however, two previously recoded prehistoric sites are located about 200 meters to the south.

Recommendations: Archaeological Resources

In light of the current findings as well as those from the Thunderbird project (Getchell and Atwood 2003), the following actions are recommended:

- Prior to project construction, conduct Phase II Evaluations, and if needed, Phase III Data Recovery Excavations at the three sites determined to be within the project alignment (CA-SLO-1894, SLO-1895, and SLO-1896). Archaeological investigations may involve a combined (or phased) approach to identify significant resources and mitigate impacts to significant sites. The purpose of Phase II Evaluation should be to determine if the potions of these sites in the project alignment are considered significant cultural resources (historical resources) under CEQA, and to assess project impacts to significant resources. Phase II evaluations should comprise archaeological sampling of selected portions of the sites within the project corridor, and evaluating the materials collected to determine if the site contains important information and retains the integrity necessary and sufficient to meet the criteria for significance under CEQA. The level of effort proposed for each site should be sufficient to evaluate the site for California Register of Historic Places (CRHP) eligibility (integrity and content). Methods employed should be appropriate to address horizontal and vertical extent of site deposits in the project corridor. If Phase II evaluations do not support eligibility, work at that site will cease (i.e., data recovery/mitigation will not be necessary). Significant sites determined to require mitigation of project effects shall be subject to

Phase III Date Recovery Excavations. The goal of the data recovery should be to retrieve, analyze, and disseminate anthropological information stored in the in the part of the site that will be impacted by the project. Work should be guided by a research design/treatment plan outlining pertinent research issues, field methods, laboratory processing, special studies, curation, and reporting requirements

- Planning phases of the Phase II/Phase III work should include consultation with the public, specifically local Native American tribal representatives to address traditional uses of the project area, and their concerns about the disposition of traditional and archaeological resources.

- During construction, a qualified archaeological monitor should be present during ground disturbance in the project area to ensure that any newly discovered resources are evaluated under current CEQA guidelines. If prehistoric or historic deposits or features are discovered during construction, activities in the area should cease and a qualified archaeologist should inspect the discovery and prepare a recommendation for a further course of action.

Geoarchaeological Assessment

Based on review of the soil surveys, geologic maps, and field work, there appears to be negligible potential for buried soils along the project alignment east of the Salinas River. West of the river, the pipeline would traverse both Lockwood and Mocho soils on the stream terrace of the river. This relatively stable landform was created during alluvial deposition throughout the Holocene. The landform was also attractive to people, as evidenced by the surface sites recorded in the immediate area.

Recommendations: Geoarchaeology

Previous archaeological work on the terrace west of the river was limited to shallow probes of the surface deposit (Getchell and Atwood 2003). These investigations would not have detected deeply buried cultural sites. Therefore it is recommended that in conjunction with the Phase II Evaluation, a backhoe be employed to excavate at least two trenches along the proposed project alignment to determine if buried soils are present. The trenches should be excavated at least to the depth of the proposed project's excavation. If buried soils are found, further trenching should be conducted at the discretion of the project director to determine if the buried soils contain cultural deposits

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APPENDIX A

DEPARTMENT OF PARKS AND RECREATION SITE RECORD FORMS

APPENDIX B

GEOARCHAEOLOGICAL ASSESSMENT

Kate Ballantyne

569 Lawrence Dr.
San Luis Obispo, CA 93401

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May 23, 2008

Jennifer M. Farquhar
Albion Environmental, Inc.
1414 Soquel Ave. Suite 205
Santa Cruz, CA 95062

Subject: Potential for Buried Archaeological Sites for the Paso Robles Treatment Plant Project

Dear Ms. Farquhar:

This study was conducted to determine the potential for buried soils in the Paso Robles Water Treatment Plant project area. I conducted a cursory windshield and pedestrian survey along the project alignment. I also examined the sidewalls of an erosional gully and a small ephemeral stream to look for buried soils. Field investigations were conducted according to the National Cooperative Soil Survey Standards, following the methods in the Soil Survey Manual (Soil Survey Staff 1993).

Based on soil and geologic map review, the project area crosses Holocene-age alluvial deposits (Jennings 1958, USDA 1978). The depositional nature and recent age of the stream terraces in the Salinas River corridor make the project area likely to contain soils that were stable during the Holocene and have been buried by younger soils. Therefore, the project site could contain buried cultural deposits.

Definitions and Descriptions

Archaeologists often rely on surface surveys to determine the presence or absence of archaeological sites. Increasingly, archaeologists now also consider the probability of encountering buried sites during the planning phase of surveys and excavations. Backhoes and other testing tools (truck-mounted drill rig, etc.) are commonly used to expose subsoil to determine if buried soils occur within the project area and, if present, whether they are stable and young enough to contain cultural materials.

A ***soil*** consists of unconsolidated parent material that has undergone physical and chemical alterations caused by the five soil forming factors: time, parent material, climate, biota, and topography (Miller and Donahue 1990). In contrast, ***sediment*** consists of transported and deposited particles or aggregates derived from rocks, soil, or biological material (Soil Science Society of America 1999). Commonly, soil is found in stable environments (i.e., uplifted stream terraces or gently sloping hillsides) while sediment is found in unstable environments (i.e., floodplains or landslide areas). A ***buried soil*** is soil that has formed in a stable environment and has accumulated soil properties (such as structure and color) and is then buried by a mantle of more recent sediment. Often, a

buried soil is called a ***paleosol***—a soil that formed on a past landscape with distinctive morphological features from a soil-forming environment that no longer exists at the site. A soil becomes a paleosol when development is halted by external environmental change or burial.

It is important to understand that not all buried soils are archaeological; in fact, most are not. The primary goal of a geomorphological study for archaeological purposes is to identify those landforms that would have been stable and available for human occupation during the late Pleistocene and Holocene and were more recently buried by sediments. Further, it is important to determine which landforms would have been *attractive* for human occupation to help improve the chances for actually encountering buried archaeological sites.

Geologic Context

The project area is located just east of the foothills of the Santa Lucia Range, and just south of the City of Paso Robles. The terrain is mountainous to the west, level in the Salinas River corridor, and hilly to the east. Several geologic formations give rise to the terrain, dominated by Middle Pleistocene Quaternary nonmarine terrace deposits and Plio-Pleistocene nonmarine deposits (Jennings 1958). The stream terraces and floodplains of the Salinas River are recent (Holocene) in age.

Soil types in the project area as mapped by the San Luis Obispo-Paso Robles soil survey are Pico fine sandy loam, Lockwood shaly loam, Mocho clay loam, xerofluvents (riverwash), and Metz-Tujunga complex (occasionally flooded) (1979). Of these soil types, only two are located in suitable environments for containing Holocene age buried soils: Mocho and Lockwood. Pico soil can contain buried horizons when in certain landform positions, but in this case, examining a gully that traverses the soil type along the project alignment revealed no buried horizons. (see photos). The xerofluvents (active river deposits) could not contain intact cultural deposits due to the large sediment loads that frequently move through the river system.

Discussion and Recommendations

Based on review of the soil surveys, geologic maps, and field work, there appears to be negligible potential for buried soils along the project alignment east of the Salinas River.

West of the river, the pipeline would traverse both Lockwood and Mocho soils on the stream terrace of the river. This relatively stable landform was created during alluvial deposition throughout the Holocene. The landform was also attractive to people, as evidenced by the surface sites recorded in the immediate area.

Previous archaeological work on the terrace west of the river was limited to shallow probes of the surface deposit. These investigations would not have detected deeply buried cultural sites. I recommend employing a backhoe to excavate at least two trenches along the proposed project alignment to determine if buried soils are present. The trenches should be excavated at least to the depth of the proposed project's excavation. If

buried soils are found, further trenching should be conducted at the discretion of the project director to determine if the buried soils contain cultural deposits.

Please contact me if you have any questions about the content of this letter. Thank you for the opportunity to assist you with this project.

Sincerely,

Kate Ballantyne
Geoarchaeologist

References

Jennings, C.W. 1958. Geologic Map of California: San Luis Obispo Sheet. California Department of Mines and Geology, Scale 1:250,000.

Miller, R. W. and R. L. Donahue. 1990. Soils: An Introduction to Soils and Plant Growth, Sixth Edition. Prentice Hall, Englewood Cliffs, NJ.

Soil Conservation Service. 1979. Soil Survey of San Luis Obispo County, Paso Robles Area, California. USDA, SCS.

Soil Survey Division Staff. 1993. Soil Survey Manual. USDA-SCS Agric. Handbook 18. U.S. Gov. Print Office, Washington, D.C.

Soil Survey Staff. 1999. Keys to Soil Taxonomy, Eighth Edition. U.S. Department of Agriculture, NRCS.

Photographs

View of gully sidewall along project alignment east of Salinas River. Note unsorted stream cobbles and lack of buried soils.

View of level stream terrace west of river. Proposed project alignment runs parallel to railroad tracks in field.

APPENDIX C

CONSTRUCTION SITE STORM WATER QUALITY REQUIREMENTS

City of Paso Robles
Construction Site Storm Water Quality Requirements

Overview of the City's Construction Storm Water Program

The City of Paso Robles is committed to protecting the water quality of nearby creeks and streams and to preserving the overall health of our community. One of the major contributors of pollution within our City is construction activity, especially sediment laden storm water runoff. Sediment levels in construction site runoff are typically far greater than levels from urban areas or forest lands. During a short period of time, construction activity can contribute more sediment to streams than can be deposited naturally over several decades, causing physical and biological harm to our waters. The Environmental Protection Agency estimates that 20-150 tons of soil per acre is lost every year to storm water runoff from construction sites. Many studies indicate that controlling erosion can significantly reduce polluted storm water runoff.

Below is a list of pollutants commonly associated with construction activity:

- Sediment
- Concrete liquid waste
- Paint and stucco
- Soil amendments (lime fly ash)
- Trash
- Oil and grease
- Petroleum
- Asphalt products
- Herbicides, fertilizers, and pesticides
- Joint and curing compounds

To address construction related storm water pollution, the City of Paso Robles requires all projects to implement Best Management Practices (BMPs). BMPs are a practice or combination of practices that prevent or reduce adverse affects of storm water runoff and/or associated pollutants. Following are the major categories of BMPs that are required to be considered for all construction projects:

- **Soil Stabilization**- BMPs that prevent erosion from occurring.
- **Sediment Control**- BMPs that remove sediment once

it is suspended in storm water runoff.

- **Tracking Control**- BMPs that eliminate tracking of sediment off of a construction site.
- **Material and Waste Management**- BMPs that are implemented to protect storm water runoff from toxic materials or chemicals.
- **Dust Control-** BMPs which prevent wind erosion.
- **Vehicle and Equipment BMPs-** address pollutants associated with construction related equipment and vehicles.
- **Dewatering Measures-** BMPs that are implemented during dewatering activities (footing construction, culvert construction, groundwater, etc.)

The following section contains guidance that can be used by developers, contractors, commercial or small residential development to control storm water pollution during construction activities and outlines special requirements for projects that create 1 acre or more of disturbed soil areas.

SWPPP Information

Requirements for Projects That Will Create 1 Acre or More of Disturbed Soil Area.

The California State Water Resources Control Board (SWRCB) requires all construction projects that will disturb 1 acre or more of soil or smaller sites that are part of a common plan of development to obtain permit coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharge Associated with Construction Activity (WQ Order No. 99-08-DWQ) (General Construction Permit). To obtain General Construction Permit Coverage, the owner or developer is required to submit a Notice of Intent (NOI) application, along with a fee, to the SWRCB. Once coverage under the General Construction Permit is obtained the owner/developer is required to develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The City of Paso Robles will require submittal of the SWPPP and proof of permit coverage prior to the issuance of a grading permit. The SWPPP must be accepted by the City and implemented prior to the start of construction. The General Permit and NOI application can be obtained at:

http://www.swrcb.ca.gov/stormwtr/construction.html

The SWPPP Document must be available at the construction site at all times.

The SWPPP must include the following:

- The NOI Receipt Letter with the Water Discharge

Identification Number (WDID#).

- A certification page signed by the owner of the construction site.
- Description of the nature of the construction activity.
- Identification of a person responsible for SWPPP implementation.
- Identification of potential pollutants.
- Amount of planned disturbed soil area.
- Identification of receiving water body.
- Description of soils present at site.
- Site calculations (run-off coefficient, amount of run-on coming onto the site, and pre and post construction amount of impervious surface)
- Construction activity schedule.
- Topographic map of site.
- Identification of post construction storm water controls.
- Identification of BMPs proposed.
- Identification of Sample and Analysis Plan (SAP) requirements.
- SWPPP site map, depicting locations of storm drain components, drainages, receiving waters, identification overland flow direction, site elevation, BMP implementation, material and waste storage areas, and discharge locations.
- Amendments to the SWPPP must be completed any time construction activates change, BMP implementation changes significantly, if there is a violation of the permit or at the request of the City or the Regional Water Quality Control Board (RWQCB) staff.
- Compliance with the SWPPP must be certified annually. The signed Annual Certification must be kept with the SWPPP Document on site.
- Site inspections must be completed on a bi-weekly basis during the non-rainy season (April 16th to October 14th), once per week during the rainy season (April 15th to October 15th), before and after a rain event and at 24-hour intervals during an extended event. The site inspection must include a maintenance log which identifies BMPs repaired, replaced, or new added.
- All site inspection records must be kept on site with the SWPPP Document.

This fact sheet only provides a summary of the requirements of the General Construction Permit. Please review the Permit itself for more detailed information.

Site Requirements

Site Clean Up Area
An area shall be designated for workers to clean up equipment and tools that will prevent stucco, concrete, paint or wash water from entering storm drains, lakes, streams or other watercourses. Clean up area must be a minimum of 10′ back of walks, a minimum of 100′ from any storm drain inlet, and large enough to accommodate disposal of concrete slurry. Stabilized access is required for any clean up area that is not accessible from a paved area. Current areas shall be identified as an amendment to the on-site SWPPP Document.

Solid Waste Management
An area shall be designated for construction workers to deposit construction waste materials in a location away from drop inlets, curbs or source of runoff. The area must be at least 50′ from storm drains, road ditches, and watercourses unless protected. Provide separate containers for handling of used stucco and concrete bags, wet paint cans, oil, solvents, etc.

Drain Inlet (DI) Protection
All DIs affected by the construction activities shall be protected to keep all silt, construction materials, and any water containing construction materials from entering storm drains, lakes, streams or watercourses. DI protection is to be checked and serviced on a regular basis, with additional checks prior to and after each storm event. Cleaning of DI protection must always be performed away from any area that might allow dirty rinse water to flow into DIs. DI protection includes storm drain inlet filter bags, fiber rolls (as per manufacturers recommended installation instructions), and rock bags to trap excess silt.

Cleaning of Streets/Sidewalks
All silt, construction materials, and water containing construction materials need to be prevented from entering storm drains, lakes, streams or other watercourses. Shoveling, scraping or dry sweeping prior to water washing of streets, curbs and gutters, and after any storm event is effective maintenance.

Sediment and Erosion Control
Keep all loose dirt and mud off sidewalks, gutters, and streets to prevent silt, construction materials, and water containing construction materials from entering storm drains, lakes, streams or other watercourses by implementing preventive measures. Undercut back of walks to create a small trench, cut lots to grade away from walks, and install fiber rolls at back of walks to prevent sediments from washing out onto the sidewalks. Keep loose materials a minimum distance of 2′ to 4′ back of walk. Install sediment and erosion control blankets at back of walk and on slopes to stabilize soil. Lay gravel/rock bags in the gutters every 50′ to 100′ to collect silt.

Install straw with tackifier for erosion control.

Concrete/Stucco Equipment
Any concrete/water mixture or hazardous pollutants must not enter storm drains, lakes, streams or other watercourses. Concrete trucks and pumps must use designated area(s) for cleanup and washouts. When in use, keep pumps off sidewalks and streets. Use tarp under pumps, shovel off excess concrete mixture, and use absorbent for oil/fuel leaks. If concrete bags are used, bags must be disposed of in designated clean area(s).

Mixers are to be placed on lots. Lots are to be graded to prevent spilled concrete/stucco or water mixture from reaching the sidewalks, gutters, drop inlets or drainage ditches. Protect mixers with tarps or plastic under area and berms of sandbags or gravel bags around edges to contain spills and/or wash water. Pump contents of bermed area to a location that will prevent any contaminants from reaching storm drains. Any wash water from concrete aggregate flatwork shall be contained in a tarped and bermed area and removed in an approved manner.

Saw Cutting
Any saw cutting activities shall implement the same preventive measures included with concrete equipment. Containment of concrete/water mixture or hazardous material is required. A vacuum, dam, and pump shall be use to pump runoff from saw cutting to a truck or other approved area.

Paint Wash Area
Painting equipment and tools are to be cleaned in designated areas. If a wash area is not available, rinsing is not to be done on lot fronts where rinse water may reach the streets.

Concrete/Stucco Tools
Concrete and stucco equipment and tools should be cleaned in designated areas only. Concrete and stucco rinse water is highly alkaline and considered a pollutant to groundwater and surface water. Rinse areas should be visibly marked and self-contained. Wash-out units can be dirt berms, hay bales or metal containers, but must be water-tight and serviceable. Wash-out units should be serviced regularly and always have extra capacity for storm events.

Material/Dirt Stockpiles
All material stockpiles need to be protected from waterways, wind, and rainfall. All materials should be securely covered when not in use and kept away from gutters, creeks, ponds, and other waterways. Materials must be contained well enough to prevent runoff to adjacent lots, streets or waterways.

Tracking
Access to site should be limited to as few locations as possible. Inactive access points should be blocked to prevent unauthorized access and to direct construction traffic to active accesses. Access points should be stabilized with

rock to prevent track-out. Active accesses should be swept of dirt and debris immediately upon occurrence and at the end of each work day. Stabilized accesses should be at minimum 50 feet long and 15 feet wide.

Portable Toilets
Portable toilets should be kept off streets and behind curbs and sidewalks as much as possible and at least 50 feet from storm drain inlets. If there are no reasonable off-street locations for the placement of a portable toilet, it should be placed at least 100 feet from storm drain inlets. Portable toilets should always be secured or weighted to prevent tipping. Securing toilets with stakes or gravel bags is often effective protection against tipping.

Landscaping
Landscaping materials should always be stored away from streets and drainage ways. All active landscaping areas should be swept at the end of the day. Landscapers must be careful to keep irrigation water out of gutters that contain dirt from recent work. Be sure that all gutters are clean prior to irrigation.

Power Washing
When power washing, careful attention must be paid to resulting runoff. Power wash runoff must be reclaimed. Down gradient storm drains should be protected from rinse water. All rinse water should be pumped behind curbs to grass or other lot area where it will not enter the storm drain.

Available Resources

There are many resources available for free that can assist in the development and implementation of a SWPPP Document and to aid in BMP selection and implementation. In addition to the two sources identified below, City staff can also provide assistance.

California Stormwater Quality Association
http://www.cabmphandbooks.com/Construction.asp

California Department of Transportation (Caltrans) Construction Storm Water Program
http://www.dot.ca.gov/hq/construc/stormwater/stormwater1.htm

APPENDIX D

COMMENT LETTERS AND RESPONSES TO COMMENTS

October 7, 2008

Paso Robles
OCT 07 2008
Planning Division

Ed Gallagher
City of Paso Robles
1000 Spring Street
Paso Robles CA 93446

SUBJECT: APCD Comments Regarding the Paso Robles Water Treatment Plant & Pipeline Project's Proposed Mitigated Negative Declaration (0802-0631)

Dear Mr. Gallagher,

Thank you for including the San Luis Obispo County Air Pollution Control District (APCD) in the environmental review process. We have completed our review of the proposed Paso Robles City project that would construct a plant to treat water from the Nacimiento Water Project, store treated water, and convey treated water to the east side of the city. The water plant would be located at the city's Thunderbird Wells east of Ramada Drive and Union Pacific Railroad. *The following are APCD comments that are pertinent to this project.*

GENERAL COMMENTS

As a commenting agency in the California Environmental Quality Act (CEQA) review process for a project, the APCD assesses air pollution impacts from both the construction and operational phases of a project, with separate significant thresholds for each. **Please address the action items contained in this letter that are highlighted by bold and underlined text**.

CONSTRUCTION PHASE MITIGATION

General

The construction phase air quality emission estimates provided in the proposed Mitigated Negative Declaration demonstrated that the project would result in significant exceedances of the 185 lbs/day and 2.5 tons/quarter thresholds for nitrogen oxide (NOx) emissions and mitigation is therefore necessary. The reactive organic gases (ROG) and particulate matter (PM) emission estimates indicate that the project will below the above listed thresholds for these pollutants.

The construction phase NOx mitigation identified in Mitigation Measure AQ-1(a) needs some refining described below. ROG mitigation is not necessary; however AQ-1(a) will help to reduce ROG. Fugitive PM emissions and mitigation is discussed further below.

The following construction phase air quality mitigation measures are needed for this project:

Hydrocarbon Contaminated Soil

Should hydrocarbon contaminated soil be known of onsite or encountered during construction activities, the APCD must be notified immediately once affected material is discovered to determine if an APCD Permit will be required. In addition, the following measures shall be implemented immediately after contaminated soil is discovered: Covers

on storage piles shall be maintained in place at all times in areas not actively involved in soil addition or removal;

- Contaminated soil shall be covered with at least six inches of packed uncontaminated soil or other TPH –non-permeable barrier such as plastic tarp. No headspace shall be allowed where vapors could accumulate;
- Covered piles shall be designed in such a way to eliminate erosion due to wind or water. No openings in the covers are permitted;
- During soil excavation, odors shall not be evident to such a degree as to cause a public nuisance; and,
- Clean soil must be segregated from contaminated soil.

The notification and permitting determination requirements shall be directed to the APCD Enforcement Division at 781-5912.

Naturally Occurring Asbestos

The project site is located in a candidate area for Naturally Occurring Asbestos (NOA), which has been identified as a toxic air contaminant by the California Air Resources Board (ARB). Under the ARB Air Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, **prior to any grading activities at the site, the project proponent shall ensure that a geologic evaluation is conducted to determine if NOA is present within the area that will be disturbed. If NOA is not present, an exemption request must be filed with the District (see Attachment 1). If NOA is found at the site the applicant must comply with all requirements outlined in the Asbestos ATCM.** This may include development of an Asbestos Dust Mitigation Plan and an Asbestos Health and Safety Program for approval by the APCD. Please refer to the APCD web page at *http://www.slocleanair.org/business/asbestos.asp* for more information or contact the APCD Enforcement Division at 781-5912.

Developmental Burning

Effective February 25, 2000, **the APCD prohibited developmental burning of vegetative material within San Luis Obispo County**. Under certain circumstances where no technically feasible alternatives are available, limited developmental burning under restrictions may be allowed. This requires prior application, payment of fee based on the size of the project, APCD approval, and issuance of a burn permit by the APCD and the local fire department authority. The applicant is required to furnish the APCD with the study of technical feasibility (which includes costs and other constraints) at the time of application. If you have any questions regarding these requirements, contact the APCD Enforcement Division at 781-5912.

Dust Control Measures

Construction activities can generate fugitive dust, which could be a nuisance to local residents and businesses in close proximity to the proposed construction site. Dust complaints could result in a violation of the APCD's 402 "Nuisance" Rule. Without a good understanding of how the proposed Mitigated Negative Declaration's particulate matter emission estimates were made, APCD is concerned that the PM emission estimates may be underestimated. That said, the MND's proposed list of PM mitigation measures may adequately address fugitive dust emissions if they are implemented effectively. **The project should be conditioned to implement the measures identified or others as needed to ensure that the construction phased fugitive dust**

emissions do not exceed 20% opacity and do not travel off-site. In addition, the name and telephone number of a designated person or persons to monitor the dust control program shall be provided to the APCD prior to land use clearance for map recordation and finished grading of the area.

Standard NOx Control Measures for Construction Equipment
The standard construction equipment mitigation measures for reducing nitrogen oxide (NOx) emissions are listed below and in section 6.3.1 of the Air Quality Handbook. **These measures are applicable to all projects where construction equipment will be used:**

- Maintain all construction equipment in proper tune according to manufacturer's specifications.
- Fuel all off-road and portable diesel powered equipment with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road).
- Maximize, to the extent feasible, the use of diesel construction equipment meeting ARB's Tier III equipment.
- Maximize to the extent feasible, the use of on-road heavy-duty equipment and trucks that meet the ARB's Tier III certification standard for on-road heavy-duty diesel engines.
- All on and off-road diesel equipment shall not be allowed to idle for more than 3 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 3 minute idling limit.
- Queing of haul trucks should be in location to minimize impact to park visitors or neighboring residents.
- Electrification of dredging and pumping equipment unless proven infeasible.

AQ-1(a) Equipment Emission Control Measures
This measure should remove the reference to Rule 402 and should reference to the CEQA Air Quality Handbook. In addition, the threshold identified in this measure is incorrect. The correct thresholds are 185 lbs/day and 2.5 tons/quarter per pollutant. The measures identify that prior to construction the contractor will need to work with the APCD to determine develop a dust and emission reduction plan. This work should at a minimum begin 3 months prior to work beginning and will need to include an evaluation of the actual construction equipment impacts and the appropriate mitigation that could go beyond the items listed in the proposed MND.

Sensitive Receptors
Some of the pipeline and water treatment plant work could result in toxic diesel impacts to sensitive receptors. This evaluation and potential mitigation will need to be adequately addressed in the emission reduction plan.

Construction Permit Requirements
Based on the information provided, we are unsure of the types of equipment that may be present during the project's construction phase. Portable equipment, 50 horsepower (hp) or greater, used during construction activities will require California statewide portable equipment registration (issued by the California Air Resources Board) or an APCD permit. The following list is provided as a guide to equipment and operations that may have permitting requirements, but

should not be viewed as exclusive. For a more detailed listing, refer to page A-5 in the District's CEQA Handbook.

- Power screens, conveyors, diesel engines, and/or crushers;
- Portable generators and equipment with engines that are 50 hp or greater;
- IC engines;
- Unconfined abrasive blasting operations; and
- Concrete batch plants.

To minimize potential delays, prior to the start of the project, please contact the APCD Engineering Division at (805) 781-5912 for specific information regarding permitting requirements.

OPERATIONAL PHASE MITIGATION

Air Quality Impact Analysis and Mitigation

The proposed MND does not evaluate the impacts from the operational phase of this project (water plant, pump station, and pipeline). The City will need to provide the air quality evaluation to the APCD and compare the total operational emissions against the operation thresholds. Evaluation should include the waste water plant, pump station and vehicle emissions (both employees and truck trips). If the project will exceed the APCD's operational phase thresholds, mitigation measures will need to be to identified and implemented to bring it below the threshold of significance. In addition, if sensitive receptors (residences, schools, hospital, etc.) would be in close proximity to diesel equipment associated with the operational phase that equipment may need to be electric instead of diesel.

In addition to ozone precursors and particulate matter, greenhouse gas emissions also need to be evaluated. Assembly Bill 32, the California Global Warming Solution Act of 2006 and California Governor Schwarzenegger Executive Order S-3-05 (June 1, 2005), both require reductions of greenhouse gases in the State of California. The Governor has recognized, "mitigation efforts will be necessary to reduce greenhouse gas emissions and adaptation efforts will be necessary to prepare Californian for the consequences of global warming". **In order to address this issue, District staff recommends that greenhouse gas emissions be evaluated for this project along with appropriate mitigation**.

Operational Permit Requirements

Based on the information provided, we are unsure of the types of equipment that may be present at the site. Operational sources may require APCD permits. The following list is provided as a guide to equipment and operations that may have permitting requirements, but should not be viewed as exclusive. For a more detailed listing, refer to page A-5 in the District's CEQA Handbook.

- Portable generators and equipment with engines that are 50 hp or greater;
- Electrical generation plants or the use of standby generator;
- Pipelines;
- Public utility facilities;

- Boilers; and
- IC Engines.

To minimize potential delays, prior to the start of the project, please contact the APCD Engineering Division at (805) 781-5912 for specific information regarding permitting requirements.

Greenhouse Gas Impacts and Mitigation

Again, thank you for the opportunity to comment on this proposal. If you have any questions or comments, feel free to contact me at 781-5912.

Sincerely,

Andy Mutziger
Air Quality Specialist

AJM/sll

cc:

Mr. Ed Gallagher, Housing Programs Manager
Karen Brooks, Enforcement Division, APCD
Tim Fuhs, Enforcement Division, APCD
Gary Willey, Engineering Division, APCD
Andy Mutziger, Planning Division, APCD

Attachments:

1. Naturally Occurring Asbestos – Construction & Grading Project Exemption Request Form, Construction & Grading Project Form

h:\plan\ceqa\project_review\3494-1\3494-1.doc

RESPONSE TO COMMENTS

Commenter: Andy Mutziger, San Luis Obispo County Air Pollution Control District, Letter dated October 7, 2008

Comment 1: Hydrocarbon Contaminated Soil Measures.

Response: As part of the IS/MND, a Phase I Environmental Site Assessment was prepared for the WTP site. No known or suspected contaminated sites were identified at or in close proximity to the WTP site. Therefore, the city did not identify a potential impact from known hazardous waste sites and the additional mitigation measure is not warranted.

Comment 2: *Naturally Occurring Asbestos.*

Response: The geotechnical evaluation completed by Fugro West Inc. for the proposed project did not identify potential naturally occurring asbestos geologic materials in the vicinity of the project site. The requested mitigation measures wording has been added to mitigation measure AQ-1(b) to ensure that this permit requirement is fulfilled prior to initiation of construction activities.

Comment 3: Developmental Burning of Vegetative Material.

Response: The proposed project does not include developmental burning, therefore, no mitigation is required.

Comment 4: Dust Control Measures.

Response: The requested additional items have been added to mitigation measure AQ-1(b) within the IS/MND.

Comment 5: Standard NOx Control Measures for Construction Equipment.

Response: The requested additional items have been added to mitigation measure AQ-1(a) within the IS/MND.

Comment 6: Modifications to Mitigation Measure AQ-1(a).

Response: Modifications have been included for mitigation measure AQ-1(a).

Comment 7: Construction Permit Requirements.

Response: This requirement is adequately addressed in mitigation measure AQ-1(a).

Comment 8: Operational Phase Mitigation and Greenhouse Gas Emissions.

Response: The proposed project would include installation of a natural gas-powered emergency generator that would only be tested periodically. Otherwise, project operational equipment would be limited to electrical powered equipment only. The proposed project includes several energy conservation measures that will reduce greenhouse gas emissions from project operations, including water-conserving

landscaping, and tree planting to provide shade for on-site facilities to reduce electrical demand and provide carbon sequestration. Additionally, the city will require truck idling to be limited to 3 minutes or less to reduce GHG emissions. Also, the on-site buildings will be LEED compliant for energy conservation. Refer to modification to mitigation measure AQ-1a. Finally, the use of a regional water source (Nacimiento Lake) will result in lower greenhouse gas emissions when compared to importing water from another area, such as utilizing the State Water Project. The City is also considering a future solar photovoltaic project which will provide on-site electricity for the WTP operations.

STATE OF CALIFORNIA Arnold Schwarzenegger, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax

Paso Robles
SEP 05 2008
Planning Division

September 2, 2008

Ed Gallagher
City of Paso Robles
1000 Spring Street
Paso Robles, CA 93446

RE: SCH# 2008081115 Paso Robles Water Treatment Plant and Main East Pipeline Project; San Luis Obispo County

Dear Mr. Gallgher:

The Native American Heritage Commission has reviewed the Notice of Completion (NOC) regarding the above referenced project. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064(b)). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

- ✓ Contact the appropriate Information Center for a record search to determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded on or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
  - A Sacred Lands File Check. **Sacred Lands File check completed, no sites indicated**
  - A list of appropriate Native American Contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
  - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

Katy Sanchez

Katy Sanchez
Program Analyst
(916) 653-4040

CC: State Clearinghouse

Native American Contacts
San Luis Obispo County
September 2, 2008

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This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2008081115 Paso Robles Water Treatment plant and Main East Pipeline Project; San Luis Obispo County.

Native American Contacts
San Luis Obispo County
September 2, 2008

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RESPONSE TO COMMENTS

Commenter: Native American Heritage Commission, Letter dated September 2, 2008.

Comment 1: Contact the appropriate Information Center for a record search.

Response: Completed by Albion Environmental during completion of the Cultural Resources Survey Report, dated May 2008.

Comment 2: If an archaeological inventory survey is required, prepare survey report and submit to regional archaeological Information Center.

Response: Survey report and recommendations are completed by Albion Environmental and have been submitted to the City. The report has not yet been sent to the Information Center but will be submitted soon.

Comment 3: Contact the Native American Heritage Commission for a sacred lands file check and a list of appropriate Native American Contacts for consultation.

Response: Sacred Lands File check completed, no sites indicated."

Comment 4: Lack of surface evidence of archaeological resources does not preclude their subsurface existence. Recommend include measures for identification and evaluation of accidentally discovered archaeological resources or human remains and disposition plans for any recovered artifacts.

Response: Mitigation measure CUL-3 specifies an archaeological monitor. The City may choose to involve a culturally affiliated Native American in addition to the MND mitigation measures. Consultation to determine disposition of artifacts is addressed in the Cultural Resources Report. Provisions for disposition of Native American human remains would be appropriately addressed upon discovery.

State Water Resources Control Board

Division of Financial Assistance
1001 I Street • Sacramento, California 95814 • (916) 341-5700 FAX (916) 341-5707
Mailing Address: P.O. Box 944212 • Sacramento, California • 94244-2120
Internet Address: http://www.waterboards.ca.gov

Linda S. Adams
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

SEP 24 2008

Paso Robles
SEP 29 2008
Planning Division

Mr. Ed Gallagher
City of Paso Robles
1000 Spring Street
Paso Robles, CA 93446

Dear Mr. Gallagher:

NOTICE OF COMPLETION (IS/EA) FOR SAN LUIS OBISPO COUNTY (COUNTY); PASO ROBLES WATER TREATMENT PLANT AND EAST MAIN PIPELINE PROJECT (PROJECT); SAN LUIS OBISPO COUNTY; STATE CLEARINGHOUSE (SCH NO. 2008081115)

We understand the City may be pursuing Clean Water State Revolving Fund (CWSRF) financing for the proposed Project. As a funding agency and a State agency with jurisdiction by law to preserve, enhance, and restore the quality of California's water resources, the State Water Resources Control Board (State Water Board) is providing the following information for the environmental document to be prepared for the Project.

If the City decides to pursue funding through the CWSRF program, please provide us with the following documents applicable to the proposed project: (1) Copies of the Draft and Final environmental document, (2) the resolution certifying the environmental document and making CEQA findings, (3) all comments received during the review period and your responses to those comments, (4) the adopted Mitigation Monitoring and Reporting Plan (if applicable), and (5) the Notice of Determination filed with the Governor's Office of Planning and Research. In addition, we would appreciate notices of any hearings or meetings held regarding environmental review of any projects to be funded by the State Water Board.

The CWSRF Program is partially funded by the U.S. Environmental Protection Agency and requires additional "CEQA-Plus" environmental documentation and review. The State Water Board is required to consult directly with agencies responsible for implementing federal environmental laws and regulations. Any environmental issues raised by federal agencies or their representatives will need to be resolved prior to State Water Board approval of a CWSRF funding commitment for the proposed Project. For further information on the CWSRF program please contact Ms. Michelle L. Jones at (916) 341-6983.

It is important to note that prior to a CWSRF funding commitment, projects are subject to provisions of the Federal Endangered Species Act, and must obtain Section 7 clearance from the U.S. Fish and Wildlife Service (USFWS), and/or National Marine Fisheries Service (NMFS) for any potential effects to special status species. Please be advised that the State Water Board will consult with USFWS, and/or NMFS regarding all federal special status species the Project has the potential to impact if the Project is to be funded under the CWSRF Program. The City will need to identify whether the Project will involve any direct effects from construction activities, or indirect effects, such as growth inducement, that may affect federally listed threatened, endangered, or candidate species that are known, or have a potential to occur on-site, in the surrounding areas, or in the service area. Please identify applicable conservation measures to reduce such effects.

In addition, CWSRF projects must comply with federal laws pertaining to cultural resources, specifically Section 106 of the National Historic Preservation Act. Please contact the State Water Board's Cultural Resources Officer, Ms. Cookie Hirn, at (916) 341-5690, to find out more about the requirements, and to initiate the Section 106 process if the County decides to pursue CWSRF financing. Note that the City will need to identify the Area of Potential Effects (including construction and staging areas and the depth of any excavation).

If the City decides to pursue CWSRF financing, other federal requirements pertinent to the Project under the CWSRF Program include the following:

A. Compliance with the Migratory Bird Treaty Act: List any birds that are protected under this Act that may be impacted by the Project, and identify conservation measures to minimize such impacts.

B. Compliance with the Wild and Scenic Rivers Act: Identify whether or not any Wild and Scenic Rivers would be potentially impacted by the Project, and include conservation measures to minimize such impacts.

C. Compliance with the Federal Clean Air Act (CAA): (a) Provide air quality studies that may have been done for the Project, and (b) if the Project is in a nonattainment area or attainment area subject to a maintenance plan; (i) provide a summary of the estimated emissions (in tons per year) that are expected from both the construction and operation of the Project for each federal criteria pollutant in a nonattainment or maintenance area, and indicate if the nonattainment designation is moderate, serious, or severe (if applicable); (ii) if emissions are above the federal de minimis levels, but the Project is sized to meet only the needs of current population projections that are used in the approved State Implementation Plan for air quality, quantitatively indicate how the proposed capacity increase was calculated using population projections.

D. Protection of Wetlands: Identify any portion of the proposed Project area that may contain areas that should be evaluated for wetland or U.S. waters delineation by the U.S. Army Corps of Engineers (USACE), or require a permit from the USACE, and identify the status of coordination with the USACE.

E. Compliance with the Flood Plain Management Act: Identify whether the Project is within the 100-year flood zone and whether new structures created would impede flood flows. Include a flood map.

F. Farmland Protection Act: Please identify whether or not the project will impact any important farmland or land under Williamson Act control.

The following are my specific comments regarding the IS/EA:

1. For the proposed environmental document for CWSRF financed projects regarding compliance with the CAA we recommend including a general conformity section that addresses the following steps. Please note that the conformity requirements do not, per se, apply to compliance or enforcement orders issued by federal agencies (see 40 C.F.R. § 93.153 (c)(2)(v)) or state agencies (conformity applies only to federal actions, see 40 C.F.R. § 93.150).

Step 1: Describe the air quality status for each criteria pollutant for the area where the Project's emissions occur. A CAA general conformity analysis applies only to projects in a nonattainment area or an attainment area subject to a maintenance plan ("maintenance area"), and is required for each criteria pollutant for which an area has been designated nonattainment or maintenance. Projects in an attainment area not under a maintenance plan, or in an unclassified area are not subject to any conformity analysis (for those projects, your analysis is done). Provide a summary of the emissions that are expected from both the construction and operation of the Project for each criteria pollutant in a nonattainment or maintenance area. Proceed to step 2.

Step 2: Compare these emissions to the de minimis (applicability) levels specified for each nonattainment or maintenance area's pollutant. See 40 C.F.R. § 93.153(b) (Applicability). If the Project's emissions are below the appropriate de minimis level, proceed to step 3. If the Project's emissions are above the specified level, move on to step 5. Alternately, if the CWSRF financed Project comprises an activity that the rule lists as exempt from conformity (see § 93.153(c) (2)), no further conformity analysis is needed because by regulation the projects are presumed to conform (generally, we do not believe that the types of projects that receive CWSRF financing appear on the rule's exempt activity list). Please explain how the exemption applies and proceed on to step 4. In addition, under § 93.153(d)(4), if the CWSRF activity is the alteration of, or addition to an already existing facility, which is specifically required by environmental law or regulation, the activity would be exempt from the conformity requirements, as long as the Project does not increase capacity of the facility.

Step 3: Even if the Project's emissions are below these de minimis levels, compare the emissions to the emissions inventory for the nonattainment or maintenance area to ensure the Project's emissions are less than 10% of the inventory. See 40 C.F.R. § 93.153(i) (Regional significance). Emission inventories can be obtained from the local air pollution control agency. Proceed to step 4.

Step 4: If emissions are below the de minimis levels and are less than 10% of the area's inventory, or if the Project is one of the activities the rule exempts from general conformity, the Project is not subject to any further general conformity analysis (i.e. an actual conformity determination is not required). The State Water Board can then conclude that the conformity regulation presumes that the Project conforms to the State Implementation Plan (SIP). This decision should be documented in the environmental review document but does not have to be circulated for any public comment and review beyond that which otherwise would occur during the CEQA or National Environmental Policy Act process.

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Step 5: If emissions are above the de minimis levels or are greater than 10% of the area's inventory, follow the requirements for making a conformity determination under § 93.158. For a project which causes ozone pollutants (NOx and VOC), and NO_2, if a project is a regional water or wastewater project (see § 93.152 for the definition of regional water and/or wastewater projects), and is sized to meet the needs of the population projections specified in the applicable SIP, the State Water Board will be able to make a positive conformity determination for Project emissions for these pollutants under this specific criterion provided in the rule (see § 93. 158(a)(v)(5)). Otherwise, the State Water Board will have to use one of the other specified criteria to make a conformity determination.

2. On page 2-1 of the IS/EA it states "one or possible two new wastewater pump stations with storage facilities would be constructed to pump the SMD-1 connection point." Please include a detailed project description in the final CEQA document so an assessment can be made of potential Project impacts.

3. According to the IS/EA, project construction may involve blasting. Please state in the final CEQA document if any of the activities associated with the proposed Project have a negative effect on avian breeding rituals/habits due to noise emissions associated with Project construction.

If you have any questions or concerns, please feel free to contact me at (916) 341-5686, or by email at jhockenberry@waterboards.ca.gov.

Sincerely,

James Hockenberry

James Hockenberry
Environmental Scientist

cc: State Clearinghouse
(Re: SCH# 2008082115)
P. O. Box 3044
Sacramento, CA 95812-3044

RESPONSE TO COMMENTS

Commenter: James Hockenberry, State Water Resources Control Board, September 24, 2008.

Comment 1: Should the City propose to utilize the Clean Water State Revolving Fund (CWSRF), consultation with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) will be required for potential effects to federally listed special status species.

Response: The City currently considering filing an application with the State Water Resources Control Board (SWRCB) for use of CWSRF to finance the proposed project. The Final IS/MND includes a Biological Resources Survey Report which would be used as the basis for consultation with the USFWS and NMFS. The IS/MND also includes mitigation measures to reduce or avoid impacts to special-status species during project construction activities.

Comment 2: *Should the City propose to utilize the CWSRF, consultation with the State Historic Preservation Office (SHPO) will be required for potential effects to cultural resources and historic properties.*

Response: The City currently considering filing an application with the SWRCB for use of CWSRF to finance the proposed project. The Final IS/MND includes a Cultural Resources Inventory Report which would be used as the basis for consultation with SHPO. The IS/MND also includes mitigation measures to lessen impacts to cultural resources during project construction activities.

Comment 3: CWSRF funding will require compliance with other federal requirements pertinent to the project including the following:

A. Compliance with the Migratory Bird Treaty Act (MBTA)
B. Compliance with the Wild and Scenic Rivers Act.
C. Compliance with the Clean Air Act.
D. Protection of wetlands.
E. Compliance with the Flood Plain Management Act.
F. Compliance with the Farmland Protection Act.

Response: The Final IS/MND includes analysis and mitigation measures as needed for the requirements presented above, including;

A. Mitigation measures are included in the Draft IS/MND for compliance with the MBTA, including pre-construction surveys to identify active nests within the construction area, avoidance and protection of existing nests and biological monitoring during construction activities.
B. Not applicable.
C. Air quality impact analysis has been included in the Draft IS/MND. Mitigation measures are proposed to lessen air quality impacts during construction activities.
D. Wetland areas along the Salinas River will be avoided through use of horizontal directional drilling construction techniques during construction of the proposed water transmission pipeline. The City has determined, through discussions with

the U.S. Army Corps of Engineers, that the project will not require permits for fills of waters/wetlands of the U.S.

E. The proposed water treatment plant will be located outside of the 100-year floodplain.
F. The project will not result in the loss of important farmlands.

Comment 4: Specific Comments – A Clean Air Act (CAA) conformity analysis will be required as part of the review for funding through the CWSRF.

Response: The City is considering applying for use of the CWSRF for this project. If the City pursues this funding option, the City will work with the SRWCB for preparation of a CAA conformity analysis as needed.

Comment 5: Provide description of one or possibly two new wastewater pump stations will be constructed.

Response: No new wastewater pump stations will be constructed as part of this project.

Comment 6: The project may involve blasting. Please address potential noise impacts to birds.

Response: The proposed project does not include blasting.